DOCUMENT RESUME

ED 072 876 RC 006 728

AUTHOR Eiszler, Charles F.; Kirk, Barbara V.
TITLE Achievement and Attitude Change in Michigan Migrant Education, Summer Classrooms, 1972.
INSTITUTION Central Michigan Univ., Mount Pleasant. Michigan Migrant Education Center.
PUB DATE Jan 73
NOTE 144p.

EDRS PRICE MF-$0.65 HC-$6.58
DESCRIPTORS *Academic Achievement; Average Daily Attendance; *Behavior Change; *Changing Attitudes; Educational Objectives; Elementary Grades; *Migrant Child Education; Statistical Data; Student Attitudes; *Summer Schools
IDENTIFIERS *Michigan

ABSTRACT

The extent to which the effectiveness of migrant education summer school programs is reflected in changes in the measurable behavior and characteristics of pupils enrolled in those programs was investigated at a statewide level. A sample of 773 6- to 9-year old children was used. Three dependent variables were studied: (1) performance on measures of specific educational objectives, (2) scores on measures of achievement-related attitudes, and (3) scores on measures of non-academic classroom behavior dimensions. Classroom teachers administered the School Sentiment Index during the first and final weeks of their programs and completed the Teacher Ratings of Student Achievement and the Devereaux Rating Scale at the end of the programs. Six bilingual field workers assigned to 5 classrooms each administered the achievement test during the second and final weeks of each program. The study's design required analysis techniques to reveal differences (1) between pretest and posttest scores for pupils in migrant education classrooms and (2) among the scores of pupils grouped according to the moderator variables of sex, age, and bilingual language performance. The findings indicated that the migrant education programs effected changes in pupil performance on specified educational objectives but did not promote more positive attitudes toward self or school. (NQ)

ED 072876

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
OFFICE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY

RECEIVED
FEB 27 1973
NMSU
E.R.I.C.

ACHIEVEMENT AND ATTITUDE CHANGE IN MICHIGAN MIGRANT EDUCATION SUMMER CLASSROOMS, 1972

Charles F. Eiszler
and
Barbara V. Kirk

Michigan Migrant Education Center
Rodolfo García, Director
Central Michigan University
Mt. Pleasant, Michigan

January, 1973

RC 006728

ACKNOWLEDGEMENTS

This study was possible only through the dedicated efforts of many individuals. Irma Garza, Sylvia López, José Morales, Dan Rabideau, Mark Reigle, and José Treviño were responsible for testing the children, scoring tests and interviewing school personnel. Carlos González patiently coded the data. Rodolfo García read the manuscript and made valuable suggestions for changes. The task of typing and reproducing copies of test instruments and various drafts of the manuscript was shared by Jan González, Ortencia Martínez, Kathy Wertz, and Lupe Castro.

Particular thanks are expressed to the project directors, teachers, and teacher aides for their outstanding cooperation in this evaluation project.

CFE
BVK

TABLE OF CONTENTS

Page

ACKNOWLEDGEMENTS i

LIST OF TABLES iv

INTRODUCTION 1

MICHIGAN MIGRANT EDUCATION SUMMER SCHOOL PROJECTS (1972) 6

  Development and Selection of Objectives 7
  Pre-Service Workshops 16
  Materials Used in Project Classrooms 17
  Teaching in the Summer Program 18
  Teacher Characteristics 20
  Teacher Aide Characteristics 27
  Summary 28

METHODS AND PROCEDURES 29

  Sample 29
  Moderator Variables 31
  Dependent Variables 31
    Achievement of Educational Objectives 31
    Achievement Related Variables 35
    Non-Academic Classroom Behavior 38
  Data Collection Procedures 41
  Methods of Data Analysis 42

PERFORMANCE ON SPECIFIED EDUCATIONAL OBJECTIVES 43

  Performance Tested Objectives 43
  Teacher Rated Objectives 48
  Summary 52

SCHOOL RELATED ATTITUDES 53

  Summary 61

NON-ACADEMIC CLASSROOM BEHAVIORS 62

  Summary 72

SUMMARY 73

APPENDIX A: Classroom Objectives Inventory 76

APPENDIX B: Instruments 87

  Achievement Tests 88
    Individual Tests 88
    Group Tests 95
  School Sentiment Index 111

APPENDIX C: Pre- and Post-test Performance on Specific Educational Objectives for Various Subsamples (Statistical Tables) 113

REFERENCES 144

LIST OF TABLES

Page

Table 1: The Twenty Most Appropriate Objectives for Migrant Education Classrooms According to Teacher Ratings 12

Table 2: The Twenty Least Appropriate Objectives for Migrant Education Classrooms According to Teacher Ratings 13

Table 3: Teacher Characteristics 21

Table 4: Teacher Aide Characteristics 23

Table 5: Percent of Classrooms in Which Task was Performed by Teacher Aides 24

Table 6: Distribution of Pupils According to Days in Attendance . . 30

Table 7: Sample Items for the Achievement Tests. 32

Table 8: Sample Items, K-R 20 and Spearman-Brown Adjusted Reliability Coefficients for SSI Subtests 37

Table 9: Sample Items and Test-Retest Reliabilities of the Devereux Elementary School Behavior Rating Subscales . . . 40

Table 10: Proportion of Program Successes and Binomial Probabilities for Various Pupil Subsamples 45

Table 11: Teacher Ratings of Student Mastery on Classroom-Relevant Objectives 49

Table 12: Percent of Classrooms Reporting Mastery by 75% or More Students for Each Cultural Heritage Objective 50

Table 13: Summary of Analysis of Differences Between Pre- and Post-tests of Attitude Toward School and Self-Concept . . . 54

Table 14: Summary of Differences Between Pre- and Post-tests of Attitude Toward School and Self-Concept for Four Age Levels 56

Table 15: Summary of Analysis of Differences Between Pre- and Post-tests of Attitude Toward School and Self-Concept for Males and Females 58

Table 16: Summary of Analysis of Differences Between Pre- and Post-tests of Attitude Toward School and Self-Concept for Two Language Groups 60

Table 17: Summary of Comparisons Between Migrant and Non-Migrant Pupils on Devereux Rating Scales 64

Table 18: Distribution of Objectives According to Pre-test Success of Pupils for Whom Objectives were Judged Appropriate . . . 65

Table 19: Mean Devereux Behavior Ratings for Pupils Grouped According to Three Moderator Variables: Age, Sex, and Language Functioning 67

Table 20: Summary of Analyses of Variance of Devereux Ratings for Four Age Groups 69

Table 21: Summary of Analyses of Variance of Devereux Ratings for Male and Female Pupils 70

Table 22: Summary of Analyses of Variance of Devereux Ratings for Three Language Groups 71

Table C-1: Percent of Students Passing Items on Pre- and Post-tests Identified as Relevant or Not Relevant for Their Classroom 114

Table C-2: Percent of Students at Four Age Levels Passing Items on Pre- and Post-tests of Classroom Objectives 124

Table C-3: Percent of Male and Female Students Passing Items on Pre- and Post-tests of Classroom Objectives 133

Table C-4: Percent of Students of Three Language Groups (Teacher Rated Ability in English) Passing Items on Pre- and Post-tests of Classroom Objectives 138

INTRODUCTION

Under the provisions of the Title I, Elementary Secondary Education Act, 1965, as amended by Public Law 89-750, the Migrant Unit of the Michigan State Department of Education and local and/or intermediate school districts cooperate to identify areas of the state in which a need exists for the educational services which may be provided to the children of migratory agricultural workers. The provisions of the Act provide for the disbursement of financial aid grants for the operation of migrant education projects aimed at providing "compensatory educational opportunity" for these children. The local and/or intermediate school districts in areas designated as migrant education service areas are encouraged to act as local education agencies by sponsoring applications for grants.

Grant applications are reviewed and evaluated by the Michigan Migrant Education Program which is the state-level administrative apparatus housed in the Michigan Department of Education. Project applications for grants must describe objectives, programs for reaching objectives, and methods of evaluating effectiveness in relation to three general goals or priorities: (1) developing effective use of the English language in written and spoken form; (2) improving the child's conception of himself as a person, particularly his attitudes toward himself as a learner and toward learning experiences; (3) developing an awareness of and appreciation for his cultural heritage. Project applications may be intended to serve children of families currently in the migrant stream and to make similar educational services available to children whose families have "settled out" of the migrant stream within the previous five years. The former are usually served by summer school programs which run from six to ten weeks, usually in coordination with the harvest period of local agricultural products. Summer school projects generally propose to serve the migrant child by way of devoting the full educational facilities of the district to his needs. Some projects, which serve the "settled-out" migrant child, seem to focus on tutoring programs which attempt to support the child as he copes with the conventional classroom. All funded projects are responsible for providing evaluation of specific project goal attainment. Evaluation reports of these projects are reviewed within the State Department of Education by the Title I Evaluation Coordinator.

The purpose of the current study, initiated and implemented through the Michigan Migrant Education Center, Central Michigan University, was to investigate at a state-wide level the extent to which the effectiveness of migrant education summer school projects is reflected in changes in the measurable behavior and characteristics of pupils enrolled in those programs. In a prior state-wide study (Eiszler, 1972), the investigator failed to find evidence that pupils' performance on measures of self-concept, attitude toward school, and reading achievement, were related to the length of time which they had spent in the summer school program at the time of testing. In addition to concluding that summer school programs "have no substantial effect on the general performance of pupils on measures of self-esteem, attitude toward school or reading achievement," the investigator suggested two important recommendations:

> The implications of this conclusion are twofold. First, the migrant education program must (1) identify a systematic process for translating state-wide priorities into specific educational objectives; (2) train those individuals responsible for formulating project-level objectives to use the process; and (3) provide incentive for project-level program development which conforms to state-level expectations.
>
> Second, program evaluation must be diversified and made to conform to the specific objectives of the project-level programs rather than state-wide priorities. One possibility for increasing the match between evaluation measures and project objectives would be the use of item-based testing program similar to that of the National Assessment of Educational Progress. In such an evaluation program, individual items would be selected on the basis of their relationship to specific objectives identified as important within a project. Analysis would focus on changes of the project samples responses to single items rather than total scores. (Eiszler, 1972, pp. 51-52.)

The current study was an attempt to implement an investigation of the summer school programs which conforms to the second recommendation. In addition, the development of a proposal writing guide under the sponsorship of the Michigan Migrant Education Program and changes in local project development consistent with the first recommendation justify the need for additional investigation.

The general question of primary interest in the study was: do pupils participating in summer school programs change from the beginning to the end of the program on measures of performance based on project-identified objectives? In the context of the study, the educational programs of the funded projects were considered to comprise a complex, but definable independent variable. Pupil age, sex and general language functioning were considered to be moderating variables. Achievement on a wide range of language and communication tasks, attitudes toward self and school, and various dimensions of classroom behavior were the dependent variables of the study. The basic design of the study involved examining pre-test to post-test changes in the dependent variable performances of pupils in the programs and included determination of what, if any, were the moderating effects of the variable mentioned. The basic design of the study was carried out in the investigation of two of the three categories of dependent variables: (1) language and communications tasks and (2) attitudes toward self and school. Since the teacher-rating instrument used to describe the third category of dependent variables, dimensions of classroom behavior, required that the teacher observe the pupils over a four or five week period, it was impossible to have pre-to-post program measures on this category. Comparisons to a standardization group were made and the influence of the various moderating variables was studied.

The remainder of the report is divided into six sections and presents a description of the study, its results and conclusions in adequate detail while retaining a meaningful structure to provide logical sequence. Following the introduction, an attempt is made to describe in detail the independent variable of the study, the migrant education summer school projects and classrooms. This section includes information on similarities and differences among the specific projects and classrooms studied on the following items: objectives development and selection, teacher characteristics, the materials used, use of aides and teaching assistants, pre-service training experiences, etc. Description of the projects and classrooms is based on project proposals, interviews with project directors, teachers, and aides as well as observations made of classroom operation and training conferences.

The methods and procedures of the study are described in the third section of the report. Selection of sample classrooms, a detailed description of data collection techniques, and a general discussion of data analysis are presented. Specific data analysis techniques are described in later sections, each of which is devoted to a particular category of dependent variables.

Achievement variables, affective variables, and non-academic classroom behaviors are separately considered in three following sections. In each of these three sections specific questions are raised, appropriate data analysis techniques described, and results are presented with reference to one of the three categories of dependent variables.

In a final section, the study is summarized, conclusions are stated and the implications of the study are discussed.

MICHIGAN MIGRANT EDUCATION SUMMER PROJECTS (1972)

General goals for the migrant education programs funded under ESEA Title I have been identified at the federal level. (U.S. Superintendent of Documents, 1971) At the state level, these general goals have been organized into a set of priorities which focus on pupil development in three areas: language and communications skills, self-concept and attitudes which facilitate learning, and cultural heritage awareness. (Michigan Department of Education, 1971, p. 5) It is the responsibility of a local or intermediate school district, acting as a grant applicant to translate these priorities into specific educational objectives and to develop programs appropriate to these objectives. The purpose of this section is to describe the migrant education program of Michigan by summarizing data collected from a sample of 30 classrooms in 22 different projects. Data, collected by examination of project applications, interviews with project directors, teachers and aides, and by observation of classroom operation, were organized to provide answers to the following questions: How were specific educational objectives selected or developed? How were project staff members prepared for the task of implementing the educational program of the projects? What materials were used in the classrooms of the projects? In what ways is instruction in the summer school program different from that of regular school year educational programs? What are the salient characteristics of the staff members most directly responsible for implementing the educational program of the projects--the teachers and their aides?

Development and Selection of Objectives

During the year in which proposals for the 1972 summer projects were developed an effort was made by the Michigan Migrant Education Center to provide a basis for more systematic proposal development and implementation. Two sets of self-instructional materials were developed and made available to project directors and/or teachers. The Programed Proposal Writing Guide (Bell and Abedor, 1972) provided detailed instruction on various aspects of proposal writing: problem definition, describing teaching strategies, curriculum and other resources, conducting formative and summative evaluation, flow-charting, and budget development. Also included were a model proposal, lists of educational objectives stated in behavioral form, and sample job descriptions for various staff positions. This document was distributed among potential project directors at a conference in March, 1972. A complementary set of materials designed for project teachers, Programed Teacher's Guide (Bell and Abedor, 1972), provided instruction in the use of the "mastery learning model" as a way of individualizing instruction in project classrooms. The guide described and gave examples of educational objectives stated in behavioral terms, provided a strategy for the development of mastery tests, suggested steps for implementing a classroom management system, and demonstrated a procedure for selecting educational materials. The guide was provided to project directors for distribution to appropriate staff members.

Interviews with project directors and teachers were used to determine the process for development and selection of objectives and to determine opinions regarding the usefulness of the Programed Proposal Writing Guide (PPWG) and the Programed Teacher's Guide (PTG). Of 22 project directors interviewed, 16 considered the PPWG an adequate guide for preparing proposals. In spite of this degree of sentiment regarding the helpfulness of the guide, particularly to new project directors, 11 areas of recommended change were mentioned in the interviews. The greatest concern to directors was the section of the guide which identified specific objectives. Comments and suggestions about objectives were conflicting. One director suggested that objectives must be specified within the school unit which was responsible for carrying out instruction and another suggested the State Department of Education should be more influential in the selection process. One director felt that the objectives were too broad, not specific enough and not really stated in behavioral terms, while another believed that the objectives were too specific, too involved, and established expectations for the projects which were too demanding in the light of the time available for instruction. Two other concerns mentioned by more than a single director were the absence of guidelines for recruiting pupils for the voluntary programs and what was felt to be a lack of conciseness in presenting information. Other suggestions were the addition of a section on pre-school objectives, the further development of sample objectives in science and cultural heritage, and the deletion of self-concept objectives.

In general, data collected in the interviews suggested that the guide was most helpful as a menu of objectives from which project directors could select to describe a program that would meet the needs of their students. In some cases, directors supplemented objectives taken from the lists provided with others developed within the project during prior years. Objectives selected during proposal writing, it was expected by most directors, would be modified during the operation of the instructional program when the needs of the pupils would become more specifically known.

The strategy described in the PPWG for selecting objectives recommended the use of a committee of individuals including teachers as well as the project director. In 16 of 22 projects at least one teacher was included among those who selected objectives. In four projects the director assumed full responsibility for objectives selection and in two projects a consultant or coordinator was hired to identify objectives to include in the proposal.

Proposals developed to describe the programs for migrant educatio during the summer of 1972 emphasized educational objectives which were in most cases more specific than proposals for the programs of previous years. To a great extent, this development was probably a function of the Programed Proposal Writing Guide which presented sample objectives in English language development (obtained from the Center for the Study of Evaluation, University of California at Los Angeles), self-concept development (obtained from the Instructional Objectives Exchange, Los Angeles, California) and cultural heritage (made available by the Migrant Education Center, Central Michigan University). The preliminary selection of objectives to be included in the project proposals, by and large, involved teachers as well as project directors and other administrators.

Once the preliminary step of selecting the project objectives was completed, the objectives were communicated to the teachers in a number of ways. The usual procedure, according to the director, was to give the teachers a copy of the objectives.

Teachers of the sample classrooms were asked in an interview, how the project objectives were presented to them. The tabulation that follows is a summary of their comments concerning the question of the manner in which objectives were communicated to teachers:

Director gave teachers specific objectives for their classrooms	4
Director gave teachers list of objectives which they could change by adding or deleting	3
Director gave teachers list; they chose objectives from list	2
Teachers selected or developed their own	21

It is clear that in most cases, the teachers felt they had considerable freedom in determining classroom objectives. In less than a third of the sample classrooms was there an indication that the actual objectives of instruction were based on the objectives identified in proposal writing. The data from these interviews suggests that program objectives, at least as they are identified and listed in the proposals, were not communicated to individual teachers by project directors.

In spite of the fact that objectives were selected for proposals, two-thirds of the teachers interviewed felt that the full weight of that task was left to them. To what extent did teachers in the sample use the Programed Teachers's Guide in dealing with this problem? The teacher interview was used to elicit this and other information on the use of the PTG in the sample classrooms. Teachers were asked if they had received the guide, whether it was of use to them, how it was used and what, if anything, they learned from the guide.

Twenty-six received the guide and 16 indicated that they used it. Two of the teachers said they received it but did not read the guide at all. Seven teachers who received the guide stated that it was not of use to them.

The teachers utilizing the guide mentioned the following areas in which it was used:

Selection of classroom objectives	13
Record keeping of student progress	3
Evaluating use of materials	1

Sixteen teachers said they learned something from the guide. The following tabulation indicates the type of knowledge acquired from the PTG:

How to develop and utilize performance objectives	9
Test development based on objectives	1
Mastery learning model	1
Cultural heritage objectives	1
How to effectively deal with individual differences	1

To determine what objectives were operational in the migrant education classrooms, an inventory consisting of 135 objectives selected from among those most frequently mentioned in project proposals as sent to each classroom teacher. Teachers were asked to rate each objective in terms of whether it was or was not appropriate for the pupils of their classroom. The complete Classrooom Objectives Inventory is presented in Appendix A. Table 1 shows the 20 most frequently selected objectives ranked from the most to those less frequently chosen. Each of these objectives was considered appropriate in at least 22 of the 30 classrooms, and on the average, the objectives were rated as appropriate to 27 of the 30 classrooms. Table 2 presents the 20 least frequently selected objectives, ranked from the least frequently selected to those that were less frequently chosen. Each of these objectives was considered inappropriate in at least one-half of the 30 sample classrooms, and on the average, the objectives were rated as inappropriate to 17 of the 30 classrooms.

Table 1: The Twenty Most Appropriate Objectives for Migrant Education Classrooms According to Teacher Ratings

Inventory No.	Objective
51.	Given a simple oral command, the learner will follow it correctly.
17.	Given various sounds (e.g., the letter sounds), the learner will imitate or reproduce the sounds.
12.	Given a set of commands, the learner will follow them in the proper sequence.
23.	Shown familiar objects, or pictures of objects or activities, the learner will orally identify what he sees.
35.	The learner will identify from among several items those that do not belong to a given class or set.
45.	The learner will count items.
81.	Given a set of words, the learner will identify those that rhyme.
110.	Given upper- or lower-case letters in manuscript, the learner will identify each letter name.
10.	Given an oral direction, the learner will repeat it.
15.	After hearing a two line rhyme, the learner will repeat the words that rhyme.
27.	The learner will answer simple oral questions about himself, his family, school, play, the community, etc.
30.	Given orally the function of a familiar object, the learner will identify that object.
66.	The learner will identify pairs of words beginning with the same consonant sound and those beginning with different consonant sounds.
68.	The learner will identify from given words or pictures those having the same beginning consonant sound.
46.	The learner will count to a given number.
29.	The learner will orally describe the functions of familiar objects (e.g., materials used at school).
104.	Shown a body part on a person, a doll, or a picture, the learner will name it.

Table 1 (cont.)

Inventory No.	Objective
31.	Presented with a familiar object, the learner will describe it orally.
8.	Given a series of numerals, words, or phrases, the learner will repeat them in the order presented.
64.	Given an opportunity, the learner will volunteer to make an announcement, deliver a message, etc., to class, teacher, or office clerk, in English.

Table 2: The Twenty Least Appropriate Objectives for Migrant Education Classrooms According to Teacher Ratings

Inventory No.	Objective
58.	Given a written question dealing with time, and given a picture cue, the learner will write the answer, using a complete sentence with correct word expression or numerical notation.
55.	Given a written question dealing with color, and given a color cue, the learner will write the answer, using a complete sentence corresponding to the cue.
61.	Given an oral question dealing with the date, and given a calendar cue, the learner will write the answer, using a complete sentence.
88.	The learner will construct complete sentences using past, present, and future forms.
101.	The learner will construct sentences using given possessive nouns and pronouns.
102.	The learner will repeat given phrases and sentences substituting one possessive for another.
100.	The learner will identify possessive nouns and pronouns in given phrases and sentences.
79.	Given words or pictures of objects, all but one containing the same medial consonant sound, the learner will identify the one having a different medial consonant sound.

Table 2 (cont.)

Inventory No.	Objective
80.	Given a word, the learner will state another word having the same medial consonant sound.
50.	Given a map and an oral cue dealing with "north," "south," "east," or "west," the learner will identify the given cue.
98.	The learner will combine given words (or illustrations of objects) to form compound words.
99.	Given words, the learner will identify those which are compound.
120.	The learner will arrange given words in alphabetical order.
93.	Given a sentence, the learner will repeat it, changing specified words from singular to plural or vice versa.
57.	Given a picture cue and a group of written or numerical expressions of time, the learner will identify the expression of time which corresponds to the cue.
65.	Given a free silent period in class and a choice of reading materials in English or his native language, the learner will choose to read a book, magazine, or newspaper in English.
97.	The learner will identify the two parts of a given compound word.
103.	The learner will answer questions using appropriate possessives.
86.	Given a series of rhyming words, the learner will reproduce the phonogram.
77.	The learner will identify pairs of words containing the same medial consonant sound and those containing different medial consonant sounds.

Teachers were also asked if they felt the State Department of Education should establish minimum objectives for the summer migrant program. In addition, they were to give reasons for their answers. Eleven responded affirmatively and 19 responded negatively. The following is a summary of the teachers' responses:

Response		Reasons	
Yes	5	Uniformity	3
		Basic objectives provided	2

Yes, but others should write objectives	6	Uniformity	3
		Provides real foundation for progress	2
		Programs free to add or delete objectives	1
No	19	Individual adjustments must be made	12
		Wouldn't work--pupil needs not known	3
		Programs should remain flexible	3
		Each project should have its own objectives	1

When teachers were asked if minimum objectives should be set by someone other than the State Department of Education, the following information was obtained from the nearly two-thirds of the teachers who responded affirmatively:

Response		Reasons	
Local director and teachers	10	Have better idea of objectives for a group of children	6
		Can coordinate program better	2
		New teachers don't know what is needed	1
		Can set remedial objectives	1
Teacher's committee	2	Combination of ideas better	2
Classroom teacher	7	Teacher knows children best	7

In summary, the teachers of migrant education summer projects viewed themselves as largely responsible for identifying the objectives of the instructional program. Communication of the proposal objectives to the teachers who were reponsible for implementing the project programs was accomplished in about one-third of the classrooms sampled, and in most of these classrooms, teachers felt they had the responsibility to select from among listed objectives as well as developing others which would be appropriate. The PTG was considered to be of help in dealing with this responsibility by a third of those interviewed. In the view of teachers, minimum objectives should be established by the local project directors and or teachers rather than the State Department of Education, although there was considerable agreement about the potential value of setting minimal objectives.

Pre-Service Workshops

Although most teachers in the sample studied were not informed of the specific objectives listed in project proposals, they were introduced to the general goals of the program, potentially useful materials and techniques, and specific organizational procedures through pre-service workshops.

Pre-service training workshops were conducted by local projects just prior to the beginning of the programs. Most workshops lasted two days and included the input of the State Department of Education's Migrant Division and the Migrant Education Center. Many local projects, because of their small size, combined with others for the pre-service training. In those cases, the first part of the training was related to orientation of the local program and was for the benefit of the local staff while the second portion was reserved for more general topics concerning migrant education throughout the state.

Sessions in the workshops were devoted to various topics which are listed below:

1. Background information on migrant children:

    Cultural awareness and self-concept
    Films--"Solutions in Communications"
    "Unconscious Cultural Clashes"
    Migrant record transfer system

2. Teaching techniques and methodology:

    Utilization of aides
    Oral language techniques
    Programed Teacher's Guide--behavioral objectives

3. Use of instructional materials:

    Behavioral Research Laboratories--reading and math
    Encyclopaedia Britannica--Language Experiences in Reading
    MISTOL--Michigan Interdisciplinary Series for Teaching Oral Language
    Teacher-made materials--production and use

4. Organizational procedures:

   Goals of program
   Duties of staff members
   Transportation of students
   Distribution of material
   Health care for students

Directors, when interviewed, most often mentioned cultural awareness (8), behavioral objectives (11), language arts and oral language (8), the migrant record transfer system (6), and the MISTOL materials (8). These topics were included in more workshops than were others already mentioned.

The 30 teachers in the sample classrooms were asked to respond to two questions concerning the pre-service workshops: Did your pre-service workshop provide you with new information? If yes, what type of information?

Twenty indicated that they had received new information while 8 said they had not. Two teachers did not respond to the question. Those that responded affirmatively gave the following areas as the type of new information they acquired as a result of the pre-service workshops they attended:

Type of new information	
Information on materials	11
Language problems and oral language techniques	8
Cultural heritage	4
Use of aides	1
Pre-school instruction	1
Behavioral objectives	1

Materials Used in Project Classrooms

A variety of materials were used in the 30 sample classrooms for teaching oral language, reading and cultural heritage--areas designated by state and federal agencies as priorities for the summer migrant program. Sample teachers were asked to list the materials utilized in their classrooms.

For oral language, the materials listed were:

Peabody Language Development Kit (I, II) (American Guidance Service)	16
MISTOL--Michigan Interdisciplinary Series for Teaching Oral Language	12
Science and Oral Language Materials	2
Sullivan (Behavioral Research Laboratories)	5
Miami Linguistic Series (D. C. Heath)	2

Other materials used in teaching oral language include the Electronic Futures, Inc. card reader, Core English I (Ginn), Encyclopaedia Britannica LEIR, language games, puzzles and puppets, films and filmstrips, records and flannel board stories, and teacher-made materials.

The materials listed for teaching reading were:

Sullivan (Behavioral Research Laboratories)	13
Miami Linguistic Readers (D.C. Heath)	10
Scott-Foresman Materials	3
Reader's Digest Skill Builders	2
Bowmar Readers	2

Besides the above materials, teachers made use of Phonovisual, Science Research Associates Reading Program, Instructo Flannel Kit, the Lyons Reading Game Kit, films, alphabet picture cards, and teacher-made materials.

From the teachers' responses, it appears that no commercially prepared programs are available which deal specifically with the cultural heritage goals. The materials listed include:

Records (miscellaneous)	8
Dance, Songs, Rhythms	5
Posters, Pictures, Maps	5
Spanish books, Library texts	11
Child's Experiences	3

Teaching in the Summer Program

In order to determine how the teachers viewed the summer program, they were asked if teaching in the summer program was different from teaching during the regular school year. All 30 teachers indicated that it was different, though there were various ways they described the differences. Below are their responses grouped into broad categories with the number of teachers who mentioned a particular difference:

Children	
Student background (age and ability levels)	7
Language difference	2
Children's attitude	2
Turnover of students	7
Organization of Program	
Length of day	1
Time	5
Structure	10
Less Structure (7)	
More Structure (3)	
Other	3
Instruction	
Individualized and Small Group Instruction	12
Objectives (Oral Language)	6
Materials	4
Adequate (2)	
Not Adequate (2)	
Tests (More in Summer)	1
Teacher-Child Involvement (More in Summer)	2

In addition, teachers for all of the sample classrooms completed, as part of a questionnaire, a time schedule of activities portraying a typical day in their classrooms. Based on these schedules, the amount of time spent on activities which could be identified as related to oral language instruction ranged from 20 to 95 minutes a day with an average of 50 minutes. For reading instruction, the range was 20 to 120 minutes with an average of 66 minutes. All classrooms reported activities related to oral language and reading instruction. However, it was not possible to identify any activities related to science instruction in 20 classrooms, to mathematics in 4 classrooms, and, to social studies in 18 classrooms. For those classrooms in which such activities could be discerned, 27 minutes on the average were allocated to science, 38 minutes to mathematics, and 30 minutes to social studies.

The emphasis, on the basis of time allocation, given to oral language and reading skills is highly consistent with one of the three major instructional aims of the Michigan migrant education program. For the third priority, that of developing cultural heritage in order to promote a more positive self-concept, it was possible to reliably identify related activities in just 6 of the sample classrooms. However, since cultural heritage is generally not considered an academic subject per se, it is quite likely that such related activities were part of the social studies, music, or art curriculums.

Teacher Characteristics

All teachers in the sample classrooms completed a questionnaire indicating their age, educational background, years of teaching experience, knowledge of Spanish, and experience in the migrant education program. This information is presented in Table 3. Although thirty classrooms were included in the sample, thirty-two teachers responded since one classroom was a team-teaching effort.

Of these teachers, twenty-one were female and eleven were male. More than three-fourths of the teachers were under 36 years of age - 37 percent ranged from 21 to 25 and 41 percent from 26-35. All possessed a B.A. or B.S. degree and 19 percent had attained advanced degrees.

Over half of the teachers had 3 or more years of teaching experience, 34 percent had 1 to 2 years experience, and 9 percent (3) were beginning teachers. Almost three-fourths had previous experience in a migrant education program.

The data suggests that the migrant projects are attempting to provide

Table 3: Teacher Characteristics

Characteristic	(N = 32) %
Sex:	
Male	34
Female	66
Age:	
21 - 25	37
26 - 35	41
36 - 50	16
over 50	6
Education:	
B.A., B.S.	81
M.A., M.S.	16
Specialist	3
Teaching experience:	
None	9
1 - 2 years	34
3 - 5 years	16
6 - 10 years	25
over 10 years	16
Previous experience in the migrant program:	
Yes	72
No	28
Knowledge of Spanish:	
None	34
Some	34
Fluent	31

a more bicultural learning environment for the child. About two-thirds of the teachers indicated some proficiency in Spanish. This is a substantial increase over the previous year in which only 20% of the sample teachers stated that they could speak Spanish (Eiszler, 1972, p. 10). However, this increase may not be quite as great as it seems since, instead of whether or not they could speak Spanish, teachers this summer were asked to rate their knowledge of Spanish by none, some, or fluent. Thus, a number of those who rated themselves at the level of "some" Spanish (34 percent) may have limited reading and/or aural comprehension but not the ability to speak Spanish. Still, 31 percent described themselves as being fluent in Spanish and 43 percent reported using Spanish in classroom instruction. Inasmuch as only 19 percent of the teachers were Mexican-American, it seems that more Anglo teachers are learning to communicate in Spanish.

Teacher Aide Characteristics

In the classrooms studied, there were one to three aides per classroom with an average of 2.3. Forty percent had Spanish surnames. Fifty-five aides (80 percent of those in the sample classrooms) were interviewed concerning their educational background and ability to speak Spanish. This information is presented in Table 4.

The data show that the aides have attained relatively high educational levels - 53 percent had attended college, 37 percent had attended for at least two years and 7 percent possessed a B.A. or B.S. degree. Only 22 percent had not completed high school. Many aides having some college experience viewed working in the migrant program not merely as a summer job while pursuing their degree but as a valuable experience which would add to their professional growth in their chosen career.

Two-thirds of the aides indicated an ability to speak Spanish. This is an increase over the previous year in which about 45 percent could speak Spanish. Regarding level of proficiency, 33 percent rated themselves as fluent. In three-fourths of the sample classrooms, at least one aide could communicate in Spanish.

Table 4: Teacher Aide Characteristics

Characteristics	(N = 55) %
Education	
Some High School	22
High School Diploma	18
Fewer than 2 years college	16
2 years college	37
B.A., B.S.	7
Ability to speak Spanish	
None	38
Little	18
Some	16
Fluent	33

In order to describe the role of the aides in the summer classroom, teachers were asked on a questionnaire to indicate from a list of tasks[1] those which were performed by their aide(s). Teachers for twenty-nine of the sample classrooms completed the questionnaire. Table 5 presents, for each task, the percent of classrooms in which that task was performed by an aide.

---

[1] This instrument is based on the "Revised Checklist for Services of Classroom Aides" by Jane M. Hornburger, (1969).

Table 5: Percent of Classrooms in Which Task was Performed by Teacher Aides

Task	(N = 29) %
Assisted with playground supervision	.100
Assisted with lunchroom supervision	100
Assisted with field trips	100
Distributed books and supplies to children	100
Supervised seatwork	97
Assisted with classroom control	97
Assisted in keeping the room neat and orderly	97
Worked with children who needed individual help	97
Assisted with art, music and dramatic presentations	93
Handled routine interruptions, (notes, messages, deliveries, etc.)	93
Assisted with physical education activities	93
Supervised clean-up time	93
Played number games with individuals	93
Read story to small group	90
Assisted with checking out materials and books used directly by children.	90
Reported evidence of health problems to teachers	90
Assisted in making physical facilities comfortable	86
Decorated bulletin boards	86
Played reading readiness games with individuals	86
Played reading games with individuals	86
Checked attendance	83

Table 5: (cont.)

Tasks	%
Duplicated instructional materials	83
Emphasized courtesy and good manners	83
Assisted individuals in correcting written assignments	83
Assisted with the preparation of flash cards	79
Supervised group cutting pictures	79
Passed out routine notices, information and bulletins	79
Arranged and supervised indoor games on rainy days	79
Gave some individual writing instruction	79
Listened to oral reading of individual children	79
Read to individual children	79
Operated audio visual machines	76
Gave some individual follow-up reading	76
Supervised brushing teeth	72
Supervised sharing period	69
Managed room library and games	69
Collected and mounted pictures	66
Prepared materials for seatwork	66
Read story to entire class	59
Assisted with medical examinations and inoculations	59
Used Spanish to teach new concepts	59
Assisted with the preparation of charts to be used as follow-up to reading and word-attack skills taught	52
Supervised group finger painting	52
Prepared transparencies, slides, posters and other visual aids	52

Table 5: (cont.)

Task	%
Supervised bathing and dressing	52
Instructed children on proper use and safety of tools	48
Supervised group clay modeling	45
Submitted requisitions for supplies	38
Arranged interesting and inviting corners for learning science, reading, or investigative areas	38
Supervised block building	34
Scored objective tests	34
Kept records of papers, etc. sent home by children	31

Since the list of tasks was not meant to be exhaustive, teachers were asked to enumerate any other ways that their aide was of assistance. Only 6 teachers listed other duties. These included assisting the children board the bus, preparing daily snacks, supervising the children's cooking projects, assisting in the planning and preparation of children's parties and Parent's Night, and maintaining student records.

The results of this survey suggest that the aides have many and varied roles in the summer classroom. Table 5 shows that many of the tasks performed by aides are common to a high percentage of the sample classrooms. For those which are not, it cannot be assumed that the teacher rather than the aide performed the tasks since a need may not have existed in that area. In 34 percent of the classrooms, for example, it was reported that aides supervised block building. It is very possible that block building was not an activity of the other classrooms.

As part of the questionnaire, teachers were asked to list the areas in which their aide(s) was of most assistance and, also, the areas of least assistance. A content analysis of the responses reveals that, for areas of most assistance, 72 percent of the teachers identified working with children individually or in small groups, thereby making possible increased individualization of instruction. It is noteworthy that four teachers cited presentation on cultural heritage as an area in which their aide was particularly effective. Other tasks mentioned were playground and lunchroom supervision, decorating bulletin boards, preparation of snacks, clerical duties, room clean-up, administering first-aid, assisting with field trips, and planning the Parents' Night program.

It appears that teachers were quite satisfied with the performance of their aides. A total of 41 responses was elicited for the areas of most assistance while only 15 responses pointed to areas of least assistance. Slightly less than half of the teachers either did not respond or indicated that they were unable to identify specific areas in which their aide was of least assistance. Of the responses describing areas of least assistance, 53 percent referred to the planning of instruction, a duty normally considered to be the responsibility of the teacher. Other tasks noted include the operation of projectors and duplicators, supervision of seatwork, maintenance of discipline and scoring tests.

In addition to their duties in the classroom, 28 percent of the aides stated that they made visits to the migrant camps. The purpose of their visits was either to help recruiters enroll children in the migrant program, to discuss a child's health problem with his parents, or to accompany children home on the school bus.

Summary

In this section of the report the Migrant Programs have been described in terms of the processes of program development and preparations for program implementation as well as characteristics of the teachers and aides who implement the program. Data suggest that teachers saw themselves as responsible for creating the program, ad hoc, as they confronted and became aware of the needs of the specific pupils who attended their classrooms. On the basis of the data obtained, it appears that although considerable effort was expended by project directors in identifying program objectives as a part of proposal writing, these objectives were not necessarily communicated to the classroom teachers.

Pre-service preparation for teachers and aides generally stresses the presentation of information. Although teachers are acquainted with the goals of the projects during these sessions, information about materials to be used in the classroom and descriptions of oral language techniques were most frequently reported by teachers to be the meaningful learning experiences of the sessions.

Teachers in migrant education classrooms generally have had experience in a regular full-year classroom as well as prior experience with migrant education projects. In addition, comparison with data for a previous year suggests an increase in the overall Spanish language facility of classroom teachers.

Aides in migrant education classrooms shared the responsibility of implementing the instructional program in a variety of ways. Teachers seemed to indicate a high degree of satisfaction in the way in which aides carried out their duties.

METHODS AND PROCEDURES

In this section of the report, the procedures for selecting a representative sample of classrooms and pupils are described, moderator and dependent variables are operationally defined, the procedures and sequence of data collection are identified, and methods of data analysis are discussed in general terms.

Sample

The design of this study was based primarily on the information contained in the 26 project proposals submitted to the Migrant Division of the State Department of Education prior to June 1, 1972. These proposals provided estimates of the number of elementary pupils who would participate in the summer projects and the number of schools where classes would be held. Thirty classrooms were defined by a stratified random sampling procedure. So that each region having a large number of migrant laborers would be represented, stratification was based on density of the migrant labor force and on the approximate number of classrooms of six to nine year-olds a project expected to have.

Since it was not possible to designate the actual sample classroom until the projects were underway, the projects and specific schools (if a project had more than one location) were randomly selected. The sample classrooms were then randomly selected by the fieldworkers from a list of teachers of six to nine year-olds in each designated school.

Twenty-two projects were involved in the study. The largest contributed five classrooms and eighteen contributed one classroom each.

A total of 773 children, six to nine years of age, were involved in the study. Of these, 165 were six years old, 241 were seven, 223 were eight, and 144 were nine years of age.

Due to the high mobility of the migrant family, the number of pupils in the sample classrooms varied considerably each day. To estimate average daily attendance in the classrooms, data from two days on which data was collected were studied. Results indicated that there were 13 pupils in the average classroom on a daily basis, with class sizes ranging from 6 to 22.

Table 6 presents attendance data available for 383 students at the time of post-testing. It shows the distribution of students according to the number of days each attended a migrant program classroom. On the average, pupils were in attendance for 25.5 days during the summer.

Table 6: Distribution of Pupils According to Days in Attendance

No. of Days Present	No. of Students	Cumulative Frequency
41 - 42	2	2
36 - 40	44	46
31 - 35	72	118
26 - 30	92	210
21 - 25	62	272
16 - 20	57	329
11 - 15	33	362
6 - 10	19	381
1 - 5	2	383

Moderator Variables

The moderator variables of the study were operationally defined in terms of data collected from classroom rosters completed by each teacher at the end of the summer. All pupils who attended the classroom at sometime during the summer were listed on the roster. The age (6,7,8,9) and sex of the pupils were indicated by the teacher, and the simple rating scale of general language functioning was used to indicate the general extent of bilingual performance of students in the school setting. Teachers categorized students into one of three groups: pupils who use only English, pupils who use English and Spanish, and pupils who communicate almost totally in Spanish. All moderator variables, age, sex and bilingual language performance, were coded as categorical rather than scale variables.

Dependent Variables

Three major categories of dependent variables were studied: performance on measures of specific educational objectives, scores on measures of achievement related attitudes, and scores on measures of non-academic classroom behavior dimensions.

Achievement of Educational Objectives

Test items were developed to assess performance on 129 language and communication skills objectives listed in the Classroom Objectives Inventory. Based on the type of behavior the learner was expected to perform in order to demonstrate mastery, the objectives were classified as to whether they could be measured in a group setting, individually, or by teacher rating. Sixty objectives for which the learner was to write or select the appropriate response could be measured in a group testing situation, each learner recording his responses in a test booklet. The 69 objectives requiring an oral response from the learner necessitated administering the test items individually. Since each pupil could not be assessed on every objective, performance items were administered to a representative subsample of pupils using the following approach. The objectives to be assessed individually were randomly assigned to one of three collections - 23 per collection. One test item was developed for each objective. Each collection of 23 items constituted a test.

Objectives to be measured in a group setting were likewise randomly divided into three collections - 20 per collection. For each objective, one to three items were developed. Those objectives measured by more than one item were either two or three-part questions, that is, dependent items. As a result, the actual number of items for the Group Tests varied - 27, 35 and 41 items.

Table 7 presents sample items for the Group and Individual Tests. All achievement items are presented in Appendix B.

Table 7: Sample Items for the Achievement Tests

Test	Objective	Test Item(s)
Individual	Given an oral direction, the learner will answer a question about it.	Examiner: "Listen closely to what I'm going to tell you. Pick up the ball. Put it in the box and sit down at your desk. Where did I tell you to put the ball?"
Individual	Given a word, the learner will name words which have the same rhyme ending.	Examiner: "Tell me a word that rhymes with fat."
Individual	After listening to a selection the learner will name its main characters.	Examiner: "It is recess time at school. Bob and Pablo play catch on the playground. Pablo has a

Table 7 (cont.)

Test	Objective	Test Item(s)
		ball that is red, blue and yellow. 'Throw me the ball,' says Bob. Pablo throws the ball to Bob. Bob misses the ball. The boys laugh and have fun. Who was the story about?"
Group	The learner will identify the letters that immediately follow and precede a given letter in the alphabet.	Examiner: "Look at the letters. Put an X in the box under the letter that comes right after "F" in the alphabet." E H G I ☐ ☐ ☐ ☐
Group	Given a written question dealing with color, and given a color cue, the learner will write the answer, using a complete sentence corresponding to the cue.	Examiner: "Read the question. Write your answer on the lines using a complete sentence." Is this paper yellow? ____________________ ____________________
Group	The learner will identify pairs of words beginning with the same consonant sound and those beginning with different consonant sounds.	Examiner: "I will say two words. If the two words begin with the same sound, put an X in the box under YES. If the two words do not begin with the same sound, put an X in the box under NO. Listen to the words: thumb some Do the words begin with the same sound? Mark the YES or NO box. Now, listen to these words: sink think Do these words begin with the same sound? Mark the YES or NO box."

Six language and communications skills objectives listed in the Classroom Objectives Inventory specified performance behaviors which could be more feasibly assessed by teacher observations. Such objectives included:

- During free time in class, the learner will communicate in English, independent of classroom requirements.
- In a playground situation, the learner will communicate in English with friends.

For these items, teachers were asked to indicate the approximate proportion of students (almost none, 25%, 50%, 75%, or almost all) in their classroom who had achieved each objective.

Although one priority of the Michigan Migrant Education Program is to develop in the child an awareness and appreciation of cultural heritage, specific objectives related to this priority were infrequently mentioned in proposals and therefore not included on the Classroom Objectives Inventory.

The Programed Proposal Writing Guide lists thirty cultural heritage objectives--ten concepts each for geography, history and culture. The behavioral objective for each concept is that the student will be able to state orally its Southwestern United States, Mexican, or Latin-American referent. Within each subject area, the three concepts most frequently mentioned in project proposals as objectives for their summer programs are:

a. Geography
    1. Plants
    2. Animals
    3. Climate, weather

b. History
    1. Holidays
    2. Native peoples
    3. Heroes

c. Culture
    1. Music and art
    2. Food (diet, staples, eating schedules and preferences)
    3. Clothing (footwear, headgear, protective gear and adornment gear)

Since these concepts may be interpreted in many different ways, the sample classroom teachers were asked at the beginning of their program to list the specific behavioral objectives, if any, for each of the above concepts in addition to any others that they planned to focus upon in their classroom. Twenty-one specific objectives were formulated to be representative of those described by the classroom teachers. At the end of their summer program, teachers were asked to rate achievement on these objectives by indicating what percent of their students attained each objective. Each of these objectives is listed with the results of the ratings in a later section of the report.

Achievement Related Attitudes

Attitudes toward self and school were measured by the School Sentiment Index[1]. The SSI consists of 40 questions to be asked of children. Children respond to questions by marking a "yes" or "no" on an answer sheet.

The purpose of this test is to obtain, in a straightforward fashion, a child's responses to questions which pertain to aspects of self-concept and attitude toward school.

Two dimensions of self-concept are reflected in this instrument. One describes the child's feelings about the school as one type of social setting in which the child's competence and worth is evaluated by significant others. These evaluations are thought to be incorporated by the child into the developing conception he has of himself. The second dimension contains questions which reflect a more general, comprehensive estimate of self esteem.

---

[1] This instrument is a modification of instruments purchased from Instructional Objectives Exchange, Los Angeles, California.

The four aspects of attitude toward school examined in this measure are: (1) attitude toward various school activities; (2) attitude toward school structure and social climate; (3) attitude toward peers in the school situation, and (4) a general, more global attitude toward school as a place to be.

Each of these subtests has a different number of items. The score for each subject reflects the number of positive feelings expressed by the child in relation to that dimension of self-concept or attitude toward school. A positive feeling may be expressed by the child in one of two ways: (1) by affirming a positive statement, or (2) by denying a negative statement. The SSI and scoring key is presented in Appendix B.

Table 8 presents sample items, the number of items, and the Kuder-Richardson formula 20 reliability coefficient for each subtest. In order to permit a comparison of the reliabilities of the subtests independent of their length, Table 8 also reports the Spearman-Brown reliability coefficient for each subtest adjusting for its length. In this report, items dealing with self-concept (17) are treated separately from those of attitude toward school (23). To provide for comparability in reliability coefficients, the Spearman-Brown estimated reliability for each subtest was adjusted to show reliability for a test length of 23 items, the largest group of items on which a single score was based.

Table 8: Sample Items, K-R 20 and Spearman-Brown Adjusted Reliability Coefficients for SSI Subtests (N = 391)

Subtest	Number of Items	Sample Items	K-R 20	Spearman-Brown Correction
Attitude Toward School:				
School	7	Do you like to read in school?	.66	.87
Structure & Climate	5	Are adults at your school friendly to children?	.26	.61
Peers	5	When you try to do your schoolwork do other children bother you?	.40	.75
General	6	Is school a happy place for you to be?	.47	.77
Self-Concept:				
School	12	Would you like to stay with your family instead of going to school?	.40	.75
General	5	Do you like to be who you are?	.51	.67

The K-R 20 reliability coefficient of the total score for the 23 items dealing with attitude toward school was .72. For the total score of the 17 items relating to self-concept, the K-R 20 coefficient was r = .47 based on the same number of items as in attitude toward school, the reliability for self-concept becomes .77.

It should be noted that, according to Guilford (1954, p. 380), the K-R 20 provides a lower bound reliability estimate and may not reflect the true stability of scores over time.

The SSI subtests and subtest totals for self-concept and attitude toward school were considered to be sufficiently reliable to discriminate among groups of children but not among individual children.

Non-Academic Classroom Behavior

The Devereux Elementary School Behavior Rating Scale (Spivack and Swift, 1967) provides a profile of overt behavior related to classroom achievement for primary grade children.

The child is rated by the classroom teacher on 47 different items in terms of the relative frequency with which the described behavior occurs. These individual ratings are grouped into 11 behavior factors and three additional separate items. The factors consist of between three and five items, all items in a factor tapping a common dimension of classroom behavior relevant to academic achievement and adjustment.

The eleven behavior factors are: (1) classroom disturbance - behavior which is active, social (although inappropriate), and disruptive; (2) impatience - impulsivity and related absence of reflectiveness when work is assigned; (3) disrespect-defiance - open disrespect for or resistance to the school, the subject matter being taught and the teacher; (4) external blame - the manifestation of the feeling that external circumstances (e.g., the teacher, the work) are sources of his difficulties; (5) achievement anxiety - the outward display of disturbance (worry and upset) concerning the inability to meet the achievement demands of the teacher and/or school situation; (6) external reliance - inability to make independent decisions, to hold opinions, and to take independent action without the support and direction of others. (7) comprehension - understanding of what is being taught, the ability to apply it to other situations and to recall the material at a later time; (8) inattentive -

withdrawn - the tendency to lose contact with what is going on in class; (9) irrelevant-responsiveness - irrelevant, intrusive, exaggerated or untruthful verbal responses, (10) creative initiative - active personal involvement in, and positive motivation to contribute to, the classroom learning situations; and (11) need for closeness to the teacher - desire to be close to and offer to do things for the teacher. The three additional items deal with (1) the inability to change from one task to another (2) the liklihood of giving up when work becomes demanding and (3) slowness in completing work. A child receives 14 separate rating scores, one for each factor and additional item. The higher the score the more frequently the given behavior occurs. For all but the factors of comprehension, creative initiative, and need for closeness to the teacher, a high score suggests an area of behavioral difficulty which is not conducive to successful academic functioning.

Table 9 presents the number of items and an example of the type of item employed for each subscale.

The Manual (Spivack and Swift, 1967) reports normative data based on 809 K-6 elementary children. Test-retest reliability coefficients were computed for a sample of 128 one week after their initial ratings. Table 9 presents the reliability coefficients for each factor and additional items. The median coefficient was .87. The test-retest reliability coefficient for each item was also determined. The median coefficient was .76, with a quartile range of .72 to .82.

Table 9: Sample Items and Test-Retest Reliabilities of the Devereux Elementary School Behavior Rating Subscales

Subscale	No. of Items	Example	Reliability
		How often does the child:	
Classroom Disturbance	4	Have to be reprimanded or controlled by the teacher?	.91
Impatience	4	Start working on something before getting the directions straight?	.88
Disrespect-Defiance	4	Speak disrespectfully to teacher?	.87
External Blame	4	Complain teacher never calls on him?	.87
Achievement Anxiety	4	Show worry or get anxious about knowing the "right" answers?	.85
External Reliance	5	Look to see how others are doing something before he does it?	.87
Comprehension	3	Get the point of what he reads or hears in class?	.86
Inattentive-Withdrawn	4	Quickly lose attention when teacher explains something to him?	.89
Irrelevant-Responsiveness	4	Give an answer that has nothing to do with a question being asked?	.88
Creative Initiative	4	Inititate classroom discussion?	.87
Need for closeness to the Teacher	4	Seek out the teacher before or after class to talk about school or personal matters?	.89
Unable to Change	1	Unable to change from one task to another when asked to do so?	.72
Quits	1	Likely to quit or give up when something is difficult or demands more than usual effort?	.80
Slow Work	1	Slow to complete his work?	.71

Content validity of the rating scale is claimed by the scale developers on the basis of the procedures used to select items. From discussions with teachers of both normal and exceptional children, a pool of items was developed describing behaviors that they saw as either disruptive of learning or as positively related to achievement. This item pool was used to rate both normal and exceptional children, the data was factor analyzed and correlated with achievement, and the items best describing the factors which were common to both normal and exceptional children were retained in the final form.

Data Collection Procedures

Six bilingual field workers were selected on the basis of their experience and training in either education or the social sciences and their ability to relate to students and school personnel. Two were females and four were males. Two were certificated teachers with teaching experience, two were graduate students in school psychology and counseling, and two were seniors in education. The field workers were given training in the administration of the various measurement instruments and in interviewing techniques. Each field worker was assigned to five classrooms.

The SSI was administered in all the sample classrooms by the classroom teachers during the first and final weeks of their programs. All pupils in the classroom on the day of testing were given the test.

The Achievement Tests were administered by the field workers at the beginning of the second week (fifth - seventh day) and during the final week of each project's operation. Each classroom was randomly assigned one Group Test and one Individual Test for the pre- and post-test. The Group Tests were administered to all pupils present on the day of testing.

For the Individual Tests, five pupils from each classroom were randomly selected by the field workers on the same day that the group achievement test was administered.

At the end of their programs, the classroom teachers completed the Teacher Ratings of Student Achievement and the Devereux Rating Scale. The Devereux was completed for children in a teacher's classroom for 15 days or more to insure an adequate period of teacher observation.

All data forms were returned to the Migrant Education Center, Central Michigan University for scoring and analysis.

Methods of Data Analysis

Data collected for the different dependent variable measures were of different forms. For achievement behaviors, the data constituted pass-fail categorizations on items to measure performance on 129 specific objectives in oral language and communication. For cultural heritage objectives and several oral language objectives, the data took the form of teacher ratings of class performance. Achievement related attitudes and non-academic classroom behaviors were measured on scales of varying length, each considered to result in better than ordinal level data. Since the different data forms required different specific analysis methods, these are described in the following sections in relation to the specific data reported. In general, the design of the study required analysis techniques to reveal differences (a) between pre- to post-test scores for pupils in migrant education classrooms and (b) among the scores pupils grouped according to the moderator variables of sex, age, and bilingual language performance.

PERFORMANCE ON SPECIFIED EDUCATIONAL OBJECTIVES

One general purpose of the study was to determine whether or not significant changes (i.e., greater than those changes which would be expected to occur by chance alone) occurred between the beginning and end of migrant project classrooms for specific language and communication objectives. Performance tests, developed for 129 objectives, were administered individually and in groups to representative samples of pupils both at the beginning and end of summer project operation. Analysis of the data was completed in two stages: (a) the percent of pupils with adequate performance with respect to an objective was calculated for each objective at both testing periods, and (b) the proportion of objectives for which a greater percent of pupils demonstrated adequate performance on the post-test than on the pre-test was determined and analyzed statistically. Each of these stages is described in more detail and the results of the analysis are reported and discussed in this section of the report.

Performance Tested Objectives

For each of the 129 oral language and communication objectives studied, a test item or several test items were administered to representative groups of pupils. If an objective was evaluated by a single test item, the criterion of successful performance was simply success or failure on that item. If an objective was evaluated by two or more test items, performance was judged adequate when the pupil was able to respond correctly to two of the two or three items measuring that objective. Thus, the pre- and post-test performance with respect to each objective could be expressed, for all pupils or for subsamples, in terms of the percent of pupils demonstrating competence or adequate performance.

If an instructional program is successful in promoting achievement with respect to a specific objective, a greater percent of students will demonstrate competence on the post-test than will have demonstrated competence on the pre-test. In the current study, pre-test and post-test percentages on each objective were compared for the total sample and relevant subsamples. If post-test performance was greater than pre-test performance, the observation was classified as a program success for that pupil sample or subsample. Assuming that changes in performance on specific objectives constituted a sample of discrete and independent observations about the success of the program, it was possible to use the normal approximation to the binomial test (Siegel, 1954, p. 41) to determine if the proportion of successes among the program's objectives was greater than would be expected on the basis of chance. In other words, it was possible to examine the following general hypothesis and its respective null hypothesis:

> H_1: For any relevant pupil sample in which pre- and post-test percentages of adequate performance are compared on a specified sample of objectives, the number of objectives for which program success is demonstrated is significantly greater than the number of objectives for which success is not demonstrated.
>
> H_0: The number of objectives for which program success is demonstrated is equal to the number of objectives for which program success is not demonstrated.

Tests of this hypothesis for various pupil subsamples provided the basis for inferences about the effects of the independent and moderator variables on the achievement of specific educational objectives.

The basic data for determining the proportion of program successes overall and for studying the extent to which the proportion of program success was moderated by certain pupil characteristics are presented in Tables 1, 2, 3, and 4 of Appendix C. Table C-1 presents the percent of pupils passing each performance test item pre- and post-test, with pupils sub-grouped according to whether the objective measured by the item was rated as relevant or not relevant by their teacher. Table C-2 shows the percents of 6, 7, 8, and 9 year-old pupils passing each performance test item. Table C-3 presents the same data for pupils grouped according to sex. In Table C-4 data is presented for pupils grouped according to the extent of teacher rated bilingual performance: pupils who speak only English, pupils who are bilingual, and pupils who speak Spanish and almost no English.

Table 10 presents the proportion of program successes for the total pupil sample and various subsamples and the results of the binomial test of the general hypothesis for each group.

Table 10: Proportion of Program Successes and Binomial Probabilities for Various Pupil Subsamples

Pupil Subsamples	N[a]	Proportion	z	P
Total Sample	129	.721	5.11	.000[b]
Objectives:				
Relevant	129	.713	4.93	.000
Not Relevant	113	.558	1.32	.093
Age:				
6-year-olds	129	.566	1.59	.050
7-year-olds	129	.713	4.93	.000
8-year-olds	129	.550	1.23	.109
9-year-olds	129	.488	-0.18	.429
Sex:				
Males	129	.682	4.23	.000
Females	129	.690	4.40	.000

[a] The samples for these analyses are the number of objectives examined for pre- to post-test change.

[b] Probabilities noted in this way are so small that they cannot be expressed in thousandths.

Table 10 (cont.)

Pupil Subsamples	N	Proportion	$\underline{z}$	P
Bilingualism:				
No English	129	.543	1.06	.145
Bilingual	129	.705	4.75	.000
No Spanish	129	.527	0.70	.242

If a program is to be considered effective, pupils in classrooms in which an objective is relevant should demonstrate change with respect to that objective, and pupils in classrooms in which the objective is not relevant should not demonstrate change. Table 10 shows that for 129 objectives identified as relevant to some classrooms, pupils in those classrooms demonstrated greater post-test competence than pre-test competence on 72.1 percent of the objectives. Applying the binomial test to this data resulted in a $\underline{z} = 5.11$, which was considered significant in the current study. For 113 objectives rated as not relevant to some classrooms (16 were rated as relevant by every teacher), pupils in those classrooms demonstrated greater post-test than pre-test competence on 55.8 percent of the objectives. Applying the binomial test resulted in a $\underline{z} = 1.32$, not significant in the context of this study. The proportion of program successes (pre- to post-test changes in the desired direction) is significantly greater than chance when pupils for whom the objectives are relevant are considered. When pupils for whom the objectives are not relevant are considered, the proportion of program successes is not different than chance. This data is consistent with and supports the conclusion that overall the migrant education program does promote changes in performance related to specific educational objectives.

If age is a moderating variable, the proportion of program successes will be significant for some groups of students and not significant for others. In Table 10, data show the proportions of program success to be 56.6, 71.3, 55.0, and 48.8 percent for children of 6,7,8, and 9 years of age, respectively. The proportion is significant for 7 year-olds, $\underline{z}$ = 4.93, and approaches significance for 6 year-olds, $\underline{z}$ = 1.59. For the two older groups the data do not permit the null hypothesis to be rejected. These data support the hypothesis that age is a moderating variable of program success. Essentially, the effectiveness of the program for the age range examined is limited to 6 and 7 year-old pupils.

If sex is a moderating variable with respect to program effectiveness, the proportion of program successes would be significant for one group (either males or females) and not significant for the other. According to the data presented in Table 10, the percents of success for males and females were 68.2 and 69.0, respectively. Analysis of these data resulted in $\underline{z}$ = 4.23 for males and $\underline{z}$ = 4.40 for females, both values significant in the context of the study. The success of the program is distributed over pupils of both sexes.

If the extent to which a pupil is bilingual is a moderator variable with respect to program effectiveness, it would be expected that the proportion of program successes would be significant for some groups (categorized according to language functioning) and not significant for others. Data presented in Table 10 show that for pupils who spoke no English and pupils who spoke no Spanish the percent of program successes was 54.3 and 52.7, respectively. For neither of these monolingual groups was the proportion of program successes significant. For pupils who spoke both English and Spanish, however, 70.5 percent of the objectives were objectives on which post-test competence was greater than pre-test competence. The binomial test of these data resulted in a $\underline{z} = 4.75$, significant in the context of the study. Program effectiveness is not equally distributed among pupils in the three language groups, and the data support the notion that the extent of pupil bilingualism is a moderator variable. The program appears to be effective for bilingual, but not monolingual pupils.

Teacher Rated Objectives

Achievement of six language objectives and 21 cultural heritage objectives was evaluated by teacher ratings. Since ratings were not made on a pre- to post-test basis, performance change cannot be reported. Data on these ratings were analyzed to provide a description of mastery levels at the end of the summer programs.

Table 11 shows the distribution of teacher ratings across 5 categories of mastery for each objective. For each of these objectives, teacher ratings indicate high levels of mastery at the end of the summer program, and levels of mastery appear to be positively correlated with the extent to which objectives are judged as relevant to the sample classrooms. The objective for which the lowest level of mastery was indicated was number 65: "The pupil chooses to read in English during free time." This is also the objective which was designated as relevant to the fewest number of classrooms. The objectives with the two highest levels of mastery, numbers 109 and 64, relating to proper use of crayons and volunteering to make announcements in English, were also objectives which were rated as relevant to the greatest number of classrooms.

Examination of the distribution of ratings for objectives 62, 63, 64, and 65 shows that the three related to oral language performance indicated

Table 11: Teacher Ratings of Student Mastery on Classroom-Relevant Objectives

Objective	Relevant Objective: No. of Classrooms	% of Students at Mastery Level: Almost None	25%	50%	75%	Almost All
Affective: Respond positively to spoken and written language						
62. Speak English to classmates during free time	18	0	1	4	6	7
63. Communicate in English on playground	18	1	2	5	5	5
64. Volunteer to make announcement, etc. in English	23	1	2	5	5	10
65. Choose to read in English during free time	13	1	2	2	2	6
Develop eye-hand coordination						
108. Hold book, turn pages correctly	19	0	2	3	8	6
109. Hold, use pencil/ crayon properly	22	0	1	2	4	15

higher levels of mastery than the objective related to reading performance. Examination of the ratings of two objectives related to hand-eye coordination shows higher levels of mastery for pupil manipulation of a crayon than pupil manipulation of a book. These ratings suggest that the program is more effective in promoting mastery of the oral and expressive features of language than the written and receptive features. In view of the nature of the data, this must be considered more speculation than conclusion.

Table 12 presents data for the 21 cultural heritage objectives based on teachers' responses to an open-ended question. Objectives are listed in order of the number of sample classrooms for which the teacher reported that at least 75% of the pupils mastered this objective.

Table 12: Percent of Classrooms Reporting Mastery by 75% or More Students for Each Cultural Heritage Objective

Objective	(N=28) %
The learner will explain the use of a piñata in a holiday celebration.	68
The learner will sing a song in Spanish.	68
The learner will identify clothing worn in various climates.	64
Given examples of Mexican and American food types, the learner will distinguish between the two.	57
The learner, given an example of a Mexican song and an American song, will distinguish between the two.	57
The learner will demonstrate a Mexican dance.	32
The learner will describe how climate helps to determine a culture's way of living, dressing, eating.	25
The learner will compare the way two holidays are celebrated in the U.S. with the way they are celebrated in Mexico.	25

Table 12 (cont.)

Objective	%
The learner will describe various animals found around the world.	25
The learner will identify traditional and regional costumes of Mexico.	18
The learner will describe one religious holiday of Mexico.	14
The learner will contrast the everyday staples of his own culture with those of middle American cultures.	14
The learner will draw a comparison between the Fourth of July and the Mexican independence day, September 16th.	11
The learner will describe the origins of the Mexican-American people.	7
The learner will explain the difference between traditional and modern people.	7
The learner will describe how plants affect people's lives.	7
The learner will describe plant life typical of Mexico.	7
The learner, given an example of modern art and pre-Columbian art, will distinguish between the two.	7
The learner will identify a hero from Spain and tell why he is famous.	4
Given a map of the United States and Mexico, the learner will describe regional differences in climate.	0
The learner will identify the heroes Hidalgo, Juarez, Zapata, Villa.	0

The ratings of objectives indicate the emphasis given to various cultural heritage objectives in the classroom and suggests that concepts dealing with culture rather than geography or history are stressed. The five objectives for which the greatest number of classrooms report a mastery level of at least 75% are all cultural concepts--three dealing with music and art, one of food, and one of clothing. Four of the objectives, perhaps with the exception of the one referring to clothing, could be considered examples of "popular" culture. Three of the five least mastered cultural heritage objectives refer to history or tradition.

Summary

Data collected in the study, support the conclusion that the performance of pupils on specific educational objectives was significantly more competent at the end of the program than the beginning. Significant changes in competence were observed for pupils' performance on objectives designated as relevant to their classroom and changes observed for pupils' performance on objectives not rated as relevant to their classrooms, were not significant. This supports the conclusion that the program was responsible for performance changes.

Two variables were found to moderate the effectiveness of the program: pupil age and pupil language functioning. The program was effective for 6 and 7 year-old pupils and for bilingual pupils. Evidence suggests that the program was not effective for 8 and 9 year-old pupils and monolingual Spanish or English speakers.

Based on teacher ratings for mastery at the end of the program, it was speculated that the program emphasizes oral and expressive language functioning over written and receptive language functioning. Ratings of cultural heritage objectives provided basis for hypothesizing that popular culture receives greater emphasis than history or tradition.

SCHOOL RELATED ATTITUDES

One priority of the migrant education program was to promote the development of more positive pupil attitudes toward self and school. In the current study, the attitudes were measured on pre- and post-test administrations of the modified School Sentiment Index. To determine if this instrument defined school related attitudes in a way that was relevant to the classrooms studied, teachers were asked if the SSI measured behaviors of relevance to their classrooom objectives. Of 30 classrooms studied, teachers in 26 classrooms responded affirmatively, one teacher was undecided and 3 teachers responded negatively. It was concluded that the content of the SSI is consistent with the affective objectives of migrant education classrooms.

If the program promotes more favorable pupil attitudes toward school and self, it may be expected that pupil scores on post-test measures of these variables will be greater than their scores on pre-test measures. An appropriate method of analysis of pre- to post-test mean changes is the t-test for dependent samples (Glass and Stanley, 1970, p. 297). Technically, this technique is appropriate for evaluating the following general hypothesis and its respective null hypothesis:

H_1: For a sample of pupils enrolled in migrant education summer programs, mean post-test attitude scores are significantly greater than mean pre-test attitude scores.

H_0: There is no difference between the pre- and post-test mean attitude scores.

Table 13 presents a summary of the analyses of mean pre- to post-test differences for the total sample of 186 pupils present for both

Table 13: Summary of Analysis of Differences Between Pre- and Post-tests of Attitude Toward School and Self-Concept (N=186)

Subtest	Pre-Test Mean	Post-Test Mean	t	Significance Level
Attitude Toward School:				
School Activities	5.22	4.98	-1.94	.054*
School Structure and Climate	3.12	2.97	-1.63	.105
Peers	3.66	3.25	-4.06	.000*
General	4.57	4.19	-2.97	.003*
Total	16.57	15.39	-4.12	.000*
Self-Concept:				
General	4.11	3.89	-2.49	.014*
School	8.01	7.61	-2.31	.022*
Total	12.12	11.50	-3.00	.003*

administrations of the instrument.

The data in Table 13 show post-test scores to be significantly lower than pre-test scores for both total attitude scales: attitude toward school and attitude toward self. In addition, for 5 of 6 subscales of these two measures, post-test scores were significantly lower than pre-test scores. Only attitudes toward school structure and climate did not show a statistically significant decline from pre- to post-test for the total sample.

Contrary to the general hypothesis, average attitude scores were less positive at the end of the program than they were at the beginning. In the absence of a control group it is difficult to conclusively state that attitudes were negatively affected by the migrant program. A reasonable alternative hypothesis would suggest that pre-test scores are, in general, inflated by unrealistic feelings and the "negative drift" is a function of more realistic appraisals which come as a result of participation in the program. Nevertheless, it is clear that pupils made fewer responses thought to be reflective of positive school related attitudes at the end of the summer programs than they did at the beginning and that this contradicts expectations based on hypothesized program effects.

To determine if the overall changes in attitudes were moderated by pupil characteristics of age, sex, and general language functioning, the analysis of mean pre- to post-test differences was repeated for various subsamples.

If age is a moderating variable with respect to attitude change during the course of summer school programs, significant differences should be observed for some age groups, but not for others. Table 14 presents the summary of analyses for the four age groups studied.

Table 14: Summary of Differences Between Pre- and Post-tests of Attitude Toward School and Self-Concept for Four Age Levels

Subtest	Age	N	Pre-test Mean	Post-test Mean	t	Significance Level
Attitude Toward School:						
School Activities	6	27	4.67	4.41	- .87	.395
	7	74	5.51	5.12	-2.23	.029*
	8	62	5.11	5.05	- .29	.778
	9	23	5.17	5.04	- .37	.715
School Structure and Climate	6	27	2.78	2.59	- .69	.498
	7	74	3.28	2.95	-2.50	.015*
	8	62	2.94	3.08	.83	.412
	9	23	3.52	3.17	-1.13	.271
Peers	6	27	3.07	3.00	- .27	.792
	7	74	3.91	3.34	-3.32	.001*
	8	62	3.60	3.32	-1.83	.072
	9	23	3.70	3.09	-2.11	.046*
General	6	27	4.37	4.04	- .88	.388
	7	74	4.65	4.30	-1.77	.082
	8	62	4.50	4.05	-2.03	.047*
	9	23	4.74	4.39	- .96	.346
Total	6	27	14.89	14.04	-1.16	.256
	7	74	17.35	16.70	-3.81	.000*
	8	62	16.15	15.50	-1.23	.222
	9	23	17.13	15.70	-1.70	.103
Self-Concept:						
General	6	27	3.59	3.44	- .61	.550
	7	74	4.18	4.05	- .81	.419
	8	62	4.23	4.03	-1.31	.194
	9	23	4.22	3.48	-2.73	.012*
School	6	27	6.96	6.59	- .81	.424
	7	74	8.16	7.84	-1.26	.211
	8	62	8.40	7.73	-2.20	.032*
	9	23	7.65	7.74	.16	.879
Total	6	27	10.56	10.04	- .94	.359
	7	74	12.34	11.89	-1.50	.139
	8	62	12.63	11.76	-2.28	.026*
	9	23	11.87	11.22	- .94	.357

When grouped according to age, the significant decline in average attitude scores from pre- to post-test is almost completely restricted to pupils in two age groups: 7 and 8 year-olds. Seven of eight significant differences are noted in these groups. For 7 year-olds, significantly less positive attitudes were noted on the post-test in the following areas: toward school activities, toward school structure and climate, toward peers, and the total attitude toward school scale. For 8 year-olds, significantly less positive attitudes were noted on the post-test in the following areas: general attitudes toward school, school related attitudes toward self, and the total self-concept scale. Nine year-olds showed significantly more negative attitudes toward peers in school on the post-test. The tendency for attitude responses to be more negative at the end of the summer than they were at the beginning is moderated by the age of the pupil. The 7 and 8 year-olds appear to be more greatly affected in this regard than 6 or 9 year-olds. Since 7 year-olds are the most successful pupils in terms of performance change on specific objectives, the attitude data pose difficult problems of interpretation. Increasingly positive attitudes thought to accompany successful achievement were not observed.

If sex is a moderating variable with respect to change in attitude responses from pre- to post-tests, significant differences would be expected for pupils of one sex but not the other. Table 15 presents the summary of analyses of pre- to post-test changes in attitudes for males and females. The total attitude toward school and total self-concept scale show significant losses from pre- to post-test for male and female pupils. The effect on attitudes appears to be distributed among both sexes, and it may be concluded that sex is not a moderating variable with respect to this category of dependent variables.

Table 15: Summary of Analysis of Differences Between Pre- and Post-tests of Attitude Toward School and Self-Concept for Males (N=93) and Females (N=93)

Subtest	Sex	Pre-test Mean	Post-test Mean	t	Significance Level
Attitude Toward School:					
School Activities	M	5.16	4.72	-2.48	.015*
	F	5.27	5.25	- .14	.893
School Structure and Climate	M	2.90	2.76	- .98	.328
	F	3.34	3.17	-1.34	.185
Peers	M	3.53	3.11	-2.81	.006*
	F	3.79	3.40	-2.94	.004*
General	M	4.41	4.08	-1.73	.087
	F	4.73	4.30	-2.51	.014*
Total	M	16.00	14.67	-2.94	.004*
	F	17.13	16.12	-2.93	.004*
Self-Concept:					
General	M	4.01	3.80	-1.62	.108
	F	4.22	3.98	-1.91	.060
School	M	7.93	7.52	-1.65	.102
	F	8.09	7.70	-1.61	.112
Total	M	11.94	11.31	-2.14	.035*
	F	12.30	11.68	-2.08	.040*

In studying the effects of monolingualism and bilingualism as a moderator variable with respect to changes in attitudes during participation in migrant summer programs, it was necessary to restrict the analysis to two groups, English speakers and bilinguals, since too few Spanish speakers were present for both administrations of the SSI. If bilingualism is a moderating variable, one group would be expected to show differences in pre-test to post-test attitudes which were significant while the other group did not.

Table 16 presents the summary of analyses of pre- to post-test attitude changes for pupils who were monolingual English speakers and pupils who were bilingual.

The significant differences presented in Table 16 are for bilingual pupils, a group for which significant achievement gains were noted in an earlier section of the study. Again the data challenge not only the general expectation that participation in the program would foster more positive attitudes, but also the traditional belief that pupils who have achievement success will develop more positive school related attitudes. The data reported in Table 16 support the conclusion that language functioning moderates the effects of participation in migrant education programs on school related attitudes.

Table 16: Summary of Analysis of Differences Between Pre- and Post-tests of Attitude Toward School and Self-Concept for Two Language Groups

Subtest	Language*	Pre-test Mean	Post-test Mean	t	Significance Level
Attitude Toward School:					
School Activities	Eng	5.21	4.88	-1.41	.170
	Sp/Eng	5.22	5.03	-1.45	.149
School Structure and Climate	Eng	3.69	3.48	- .76	.453
	Sp/Eng	3.03	2.88	-1.44	.153
Peers	Eng	4.04	3.62	-1.41	.170
	Sp/Eng	3.58	3.18	-3.83	.000**
General	Eng	4.72	4.52	-1.08	.291
	Sp/Eng	4.54	4.14	-2.69	.008**
Total	Eng	17.66	16.45	-1.72	.096
	Sp/Eng	16.37	15.22	-3.66	.000**
Self Concept:					
General	Eng	4.31	4.07	-1.20	.241
	Sp/Eng	4.09	3.87	-2.21	.029**
School	Eng	8.14	8.17	.10	.919**
	Sp/Eng	7.99	7.50	-2.52	.013**
Total	Eng	12.45	12.24	- .58	.568
	Sp/Eng	12.08	11.37	-3.00	.003**

---

* Eng = Speakers of English only (N = 29)
Sp/Eng = Speakers of Spanish and English (N = 156)

Summary

Pre- and post-test measures of school related attitudes show small but statistically significant changes in attitude from beginning to end of the migrant programs. Contrary to expectations, pupils expressed less positive attitudes toward school and self at the end of the program than they did at the beginning.

Two of three variables studied were shown to have moderating effects on attitude change: age and language functioning. Attitude change was noted for seven and eight year-old pupils, and for bilingual pupils. The finding is especially interesting since the groups which show significant declines in attitudes reported are those groups for which significant proportions of program success had been reported. Sex was not a moderating variable.

An explanation of the negative drift of attitudes as a function of more realistic responding in post- than pre-test sessions was offered. If such a drift occurred, assessment of attitude change would require a control group participating in a different program.

NON-ACADEMIC CLASSROOM BEHAVIORS

Non-academic behavior is an aspect of every classroom situation. Such behaviors may interfere with or facilitate learning. Measures of such behavior may be used to characterize the general level of behavioral adjustment of the child to the classroom situation. When these measures are based on teacher ratings, they also provide data for making inferences about teachers' perceptions as well as the actual behavior of children. In the current study, the Devereux Elementary School Behavior Rating Scale was used to elicit teachers' perceptions of the behavior of migrant children in the classroom situation. Of interest in the study were the questions: To what extent are migrant children perceived as behaving differently in the classroom situation than non-migrant children? To what extent are the perceived classroom behaviors of migrant children a function of pupil age, sex and language functioning?

For each of 14 specific behavior dimensions, the following general hypotheses and their respective null hypotheses were examined:

H_1: Teachers' ratings of classroom behaviors of pupils in migrant education classrooms are significantly different than teachers' ratings of classroom behaviors of non-migrant pupils.

H_0: There are no differences between teachers' ratings of the classroom behaviors of migrant and non-migrant pupils.

H_2: Teachers' ratings of classroom behaviors of pupils in migrant education classrooms are significantly different for pupils grouped according to age, sex and language functioning.

H_0: There are no differences between teachers' ratings of classroom behaviors for pupils grouped according to age, sex, and language functioning.

Examination of the first general hypothesis required a comparison group of non-migrant children. Using data provided in the Manual (Spivack and Swift, 1967, p. 31), it was possible to calculate the means and standard deviations for 478 pupils comprising that segment of the normative sample which was comparable in age to the pupils in the migrant classrooms studied. The data collected by Spivack and Swift came from ratings of pupils in 13 elementary schools of a small consolidated public school district. Eleven percent of the normative sample were of minority group (Black American) background. Comparisons were made between this subsample of the normative group and the pupils of the migrant education classrooms.

Table 17 presents means, standard deviations, and t-values for migrant and non-migrant pupils on each of 14 dimensions of classroom behavior.

The difference between mean ratings for migrant and non-migrant pupils was tested using the t-test for independent samples (Glass and Stanley, 1971, p. 295).

For 12 of 14 dimensions of classroom behavior, significant differences were found between ratings of migrant and non-migrant pupils. As compared to non-migrant pupils of the same age group in the normative sample, pupils in migrant education classrooms were rated as more disruptive, more impatient, more disrespectful, more likely to blame others for their problems, more inattentive and withdrawn, less likely to comprehend day-to-day work, more likely to make irrelevant, intrusive and exaggerated verbal responses, less likely to initiate creative ideas and behavior relevant to classroom work, more likely to have difficulty in changing from one task to another, more likely to give up on difficult tasks, and more likely to take excessive time in completing a task.

If the teacher ratings of the normative sample constitute an accurate description of the way in which teachers view non-migrant pupils in the typical classroom, then it is reasonable to conclude, on the basis of these

Table 17: Summary of Comparisons Between Migrant and Non-migrant Pupils on Devereux Rating Scales

Behavior	Spivack and Swift (N=478) Mean	S.D.	Migrant Program (N=391) Mean	S.D.	t
Classroom Disturbance	9.6	(4.5)	10.6	(4.1)	3.68**
Impatience	9.6	(4.8)	11.1	(4.3)	4.66**
Disrespect - Defiance	5.4	(2.5)	7.1	(3.0)	9.83**
External Blame	6.2	(3.6)	7.8	(3.8)	6.13**
Achievement - Anxiety	8.6	(4.4)	8.4	(3.8)	- .683
External Reliance	13.4	(6.2)	15.7	(5.3)	5.60**
Comprehension	12.9	(3.6)	10.8	(3.4)	-8.50**
Inattentive Withdrawn	9.4	(5.3)	10.4	(4.5)	3.20**
Irrelevant - Responsiveness	7.3	(3.1)	8.1	(3.0)	3.69**
Creative Initiative	11.4	(4.0)	9.4	(3.6)	-7.41**
Need for Closeness to Teacher	14.8	(4.8)	14.4	(3.9)	-1.28
Unable to Change	2.4	(1.5)	3.0	(1.4)	6.32**
Quits	2.5	(1.7)	3.2	(1.6)	6.67**
Slow Work	2.7	(1.8)	3.2	(1.8)	4.39**

**Significant, P .01

data, that teachers in migrant education classrooms see their pupils in a significantly more negative light with respect to non-academic classroom behaviors. To the extent that teacher perceptions are accurate, they may provide a basis for appropriate modifications of the instructional environment. To the extent that teacher perceptions are inaccurate, they may be considered rationalizations developed to protect teacher self-esteem. Such rationalizations may constitute a system of expectations for pupils which serve to hinder rather than facilitate achievement. In the current study, there was no firm basis for determining the extent to which teacher perceptions with respect to non-academic behaviors were accurate or inaccurate. Data collected on teacher ratings of objectives, however, may be considered expressive of teacher expectations.

Are the objectives selected by teachers as relevant to their classrooms based on expectations biased by misperceptions? To the extent that teachers' expectations have been lowered by misperception, their selection of objectives should be biased in the sense that the objectives selected will tend to be objectives already achieved by the pupils. Table 18 presents the distribution of 129 specific objectives according to the percent of pre-test success of pupils for whom each objective was judged appropriate.

Table 18: Distribution of Objectives According to Pre-Test Success of Pupils for Whom Objectives were Judged Appropriate

Percent of Pre-test Success	Number of Objectives
81-100	28
61- 80	34
41- 60	36
21- 40	26
0- 20	5

Of 129 objectives, 29 were objectives on which at least 81 percent of the pupils for whom they were deemed appropriate could already demonstrate success at the time of the pre-test. For five objectives, the rate of pre-test success was less than 20 percent. The task of objectives selection by teachers was done on a classroom rather than per pupil basis and were, expectedly so, subject to error. The direction of that error was to select a large proportion of objectives which could be successfully accomplished on the pre-test. This is consistent with a prediction based on the hypothesis that teachers have lower than appropriate expectations for their pupils and with the general interpretation that teacher ratings contain at least some degree of misperception.

To determine the extent to which the perceived classroom behaviors were a function of pupil characteristics used as moderator variables in the study, three sets of one-way analyses of variance were carried out. (Winer, 1971, p. 210). Table 19 presents the mean Devereux Rating Scale scores for pupils grouped according to age, sex, and language functioning.

Table 19: Mean Devereux Behavior Ratings for Pupils Grouped According to Three Moderator Variables: Age, Sex, and Language Functioning

Behavior Dimension	Age				Sex		Language:		
	6	7	8	9	M	F	Eng.	Biling.	Span.
Classroom Disturbance	10.19	10.83	10.87	10.47	11.97	9.44	12.69	10.31	10.64
Impatience	11.34	11.09	11.23	10.91	12.36	10.01	12.72	10.73	11.96
Disrespect	6.32	7.36	7.34	7.04	7.77	6.47	8.07	7.14	6.59
External Blame	7.20	7.68	7.85	8.26	8.33	7.28	7.33	8.00	7.12
Achievement Anxiety	8.67	8.82	8.38	7.93	8.37	8.50	7.76	8.66	7.86
External Reliance	16.52	15.91	16.23	14.15	16.43	14.98	15.74	15.28	18.00
Comprehension	10.05	10.48	10.74	11.86	10.77	10.77	11.13	11.07	9.13
Inattentive Withdrawn	11.39	11.07	9.74	9.51	10.80	9.98	11.67	9.75	12.39
Irrelevant Responsiveness	7.32	7.99	8.40	8.73	8.59	7.78	9.80	7.96	7.24
Creative Initiative	8.74	9.22	9.67	9.88	9.65	9.17	11.23	9.48	7.84
Need Closeness	13.66	14.14	14.55	14.86	13.75	14.90	15.10	14.47	13.19
Change	3.33	3.12	2.91	2.52	3.00	2.92	3.35	2.84	3.25
Quits	3.19	3.32	3.18	3.11	3.51	2.93	3.25	3.18	3.29
Slow Work	3.25	3.41	3.05	2.82	3.37	2.96	3.31	3.00	3.79

For each of the three moderator variables, 14 analyses of variance were carried out. The summary of these analyses is presented in Tables 20, 21, and 22, for age, sex, and language functioning differences, respectively.

Observed age differences were significant for six variables. On the basis of these analyses, it may be concluded that older pupils were seen as less withdrawn, inattentive, and reliant on others for direction. They were considered more comprehending of day-to-day work and more able to change from task to task, but their greater activity in the classroom was generally seen in negative terms. Older pupils were more disrespectful and more likely to engage in irrelevant responsiveness.

Observed sex differences in ratings were significant on nine dimensions. In general, male pupils were seen in a more negative light. As compared to female pupils, males were considered more disruptive, more impatient, more disrespectful, more likely to blame others, more reliant on others for direction, more likely to make irrelevant responses, more likely to give up on difficult tasks, and more prone to excessively slow work. Teachers rated males as less in need of closeness to the teacher than females.

Observed language functioning differences were significant on 11 dimensions. Monolingual English and Spanish speakers, in comparison to bilingual pupils, were seen as more disruptive, more impatient, more reliant on others, more inattentive and withdrawn, less able to change from task to task, and more likely to exhibit excessive slowness in classwork. Monolingual pupils were less likely than bilingual pupils to blame others for their problems.

The extent to which a pupil used English seemed to be related to the

Table 20: Summary of Analyses of Variance of Devereux Ratings for Four Age Groups

		ANOVA		
Behavior	Source	df	Mean Square	F
Classroom Disturbance	Age	3	9.648	-
	Error	403	17.115	
Impatience	Age	3	2.93	-
	Error	370	18.39	
Disrespect	Age	3	20.835	18.26**
	Error	404	1.141	
External Blame	Age	3	16.230	1.12
	Error	386	14.472	
Achievement Anxiety	Age	3	12.917	-
	Error	338	14.158	
External Reliance	Age	3	97.424	3.56**
	Error	364	27.351	
Comprehension	Age	3	48.100	4.18**
	Error	378	11.496	
Inattentive Withdrawn	Age	3	84.734	4.33**
	Error	404	19.572	
Irrelevant Responsiveness	Age	3	30.056	4.30**
	Error	387	6.991	
Creative Initiative	Age	3	21.142	1.67
	Error	366	12.681	
Needs Closeness	Age	3	22.080	1.45
	Error	386	15.274	
Unable to Change	Age	3	10.769	5.51**
	Error	403	1.955	
Quits	Age	3	.826	-
	Error	398	2.487	
Slow Work	Age	3	7.495	2.45
	Error	404	3.056	

*Significant, $P < .05$
**Significant, $P < .01$

Table 21: Summary of Analyses of Variance of Devereux Ratings for Male and Female Pupils

		ANOVA		
Behavior	Source	df	Mean Square	F
Classroom Disturbance	Sex	1	647.617	41.63**
	Error	405	15.555	
Impatience	Sex	1	514.220	29.93**
	Error	372	17.180	
Disrespect	Sex	1	172.476	205.57**
	Error	406	.839	
External Blame	Sex	1	107.469	7.65**
	Error	388	14.040	
Achievement Anxiety	Sex	1	1.548	-
	Error	340	14.184	
External Reliance	Sex	1	104.001	7.04**
	Error	366	27.555	
Comprehension	Sex	1	.001	-
	Error	380	11.815	
Inattentive Withdrawn	Sex	1	68.030	3.41
	Error	406	19.934	
Irrelevant Responsiveness	Sex	1	64.126	9.243**
	Error	389	6.938	
Creative Initiative	Sex	1	21.436	1.69
	Error	368	12.675	
Needs Closeness	Sex	1	128.437	8.50**
	Error	388	15.109	
Unable to Change	Sex	1	.640	-
	Error	405	2.039	
Quits	Sex	1	33.751	14.02**
	Error	400	2.407	
Slow Work	Sex	1	17.373	5.69*
	Error	406	3.054	

*Significant, $P < .05$

** Significant, $P < .01$

Table 22: Summary of Analyses of Variance of Devereux Ratings for Three Language Groups

Behavior	Source	ANOVA		
		df	Mean Square	F
Classroom Disturbance	Language	2	116.794	7.07**
	Error	404	16.513	
Impatience	Language	2	96.581	5.34**
	Error	371	18.092	
Disrespect	Language	2	28.687	56.96**
	Error	400	.504	
External Blame	Language	2	24.317	1.71
	Error	387	14.228	
Achievement Anxiety	Language	2	24.352	1.73
	Error	339	14.087	
External Reliance	Language	2	153.465	5.65**
	Error	365	27.150	
Comprehension	Language	2	97.507	8.61**
	Error	379	11.332	
Inattentive Withdrawn	Language	2	222.852	11.70**
	Error	405	19.050	
Irrelevant Responsiveness	Language	2	91.574	11.06**
	Error	388	8.281	
Creative Initiative	Language	2	143.353	11.96**
	Error	367	11.987	
Closeness	Language	2	53.728	3.53*
	Error	387	15.202	
Unable to Change	Language	2	8.002	4.00*
	Error	404	2.006	
Quits	Language	2	.399	-
	Error	399	2.496	
Slow Work	Language	2	16.365	5.41**
	Error	405	3.024	

* Significant, $P < .05$
** Significant, $P < .01$

trend of differences for several variables. English speaking monolinguals and bilingual pupils were seen as more comprehending of tasks and more likely to exhibit creative initiative, but they were also seen as more disrespectful, more prone to irrelevant responsiveness, and more in need of closeness to the teacher than their monolingual Spanish-speaking counterparts.

In general, the results for language functioning are consistent with the pattern expected in a program primarily aimed at bilingual pupils and supports the conclusions related to the success of the program for specific educational objectives.

Summary

The data of the study showed significant differences between ratings of migrant and non-migrant pupils on several dimensions of non-academic classroom behavior. The differences were interpreted as reflecting differences in teacher perceptions of migrant and non-migrant pupils. The question of the extent to which perceptions of migrant children are accurate or not accurate was raised. Data regarding the pre-test performance of pupils on objectives selected by teachers was taken to suggest that teachers have lowered achievement expectations for migrant pupils. This would be consistent with a conclusion that teacher ratings contain a degree of misperception. Comparisons within the migrant sample resulted in reasonable differences between age, sex, and language functioning groups. These data support the conclusion that teacher ratings contain a degree of accuracy. That is, comparisons within a homogeneous sample for which overall ratings may be distorted show differences which are probably real.

SUMMARY

The purpose of the study, initiated and implemented through the Michigan Migrant Education Center, Central Michigan University, was to investigate at a state-wide level the extent to which the effectiveness of migrant education summer school projects is reflected in changes in the measurable behavior and characteristics of pupils enrolled in those projects. The general question of primary interest was: Do pupils participating in summer school programs change from the beginning to the end of the programs on measures of performance based on specific objectives identified within local projects?

In the context of the study, the educational programs of funded projects were considered to comprise a complex, but definable independent variable. Pupil age, sex, and general language functioning were considered to be moderating variables. Achievement on a wide range of language and communication tasks, school related attitudes, and various dimensions of non-academic classroom behavior were the dependent variables of the study.

Based on proposals submitted to the Migrant Division of the State Department of Education, a list of specific educational objectives were indentified. Performance tests of these objectives were developed and administered in pre- and post-tests to pupils in 30 representative classrooms. Teachers in these classrooms were asked to rate objectives according to whether or not they were appropriate for their particular classrooms. In addition to performance test items, pupils were measured on scales of attitudes toward self and school on a pre- and post-test basis. At the end of the programs, teachers rated pupils on a measure of non-academic classroom behaviors.

Results of the study were as follows:

1. For a significantly greater than chance proportion of 129 objectives measured by a performance test, pre- to post-test increases in percent of pupils were observed.

2. Two variables were found to moderate the success of the program in promoting pre- to post-test change: (a) Significant proportions of program successes were found for 6 and 7 year-old pupils, but not 8 and 9 year-old pupils; (b) A significant proportion of program successes was observed for bilingual pupils, but not for either monolingual English or Spanish speakers.

3. On measures of school related attitudes, pupils showed significant declines from pre- to post-test.

4. Two variables were found to have a moderating effect on these declines in measured attitudes: (a) Pupils aged 7 and 8 demonstrated significant declines while pupils aged 6 and 9 did not; (b) Bilingual pupils also demonstrated significant declines, while monolingual pupils did not.

5. Behavior ratings of pupils in migrant classrooms were found to be significantly different than ratings of non-migrant pupils. Pupil age, sex, and language functioning were related to teacher ratings of classroom behavior.

On the basis of these data it was concluded that the migrant education programs effected changes in pupil performance on specified educational objectives, but did not promote more positive attitudes toward self or school.

The program does not appear to be equally effective in promoting changes in competence on specified objectives for all pupils. Younger pupils (6 and 7 year-olds) and bilingual pupils appear to be most likely to benefit from the program. One implication of the study, is that the program may be made even more effective by implementing programs which focus more on the educational problems of pupils who are essentially monolingual, either in Spanish or English.

A significant decline in attitudes was apparent in spite of achievement gains. In fact, subsamples for whom the program was clearly successful in promoting change on achievement were those groups for which significant attitude declines were noted. This finding led to no clear conclusion. It is possible that achievement success is less important to the pupils studied than other aspects of their lives or that pupil change is not rewarded in the classroom to the extent necessary to produce attitude change.

Differences between migrant and non-migrant pupils on teacher ratings of behavior in the classroom may indicate that migrant pupils are different than non-migrant pupils on these dimensions, that teachers' perceptions of migrant pupils are different than their perceptions of non-migrant pupils, or both of these. In the current study, there was no firm basis for choosing among these alternatives. Teachers tended to select as appropriate for their classrooms objectives which pupils could perform on entry, suggesting lowered expectations which would be consistent with some degree of misperception. The other differences within the migrant sample according to age, sex, and language functioning appeared reasonable, suggesting a degree of accuracy in perception. It was concluded that the instrument provided data which may be considered relatively accurate for inferences based on comparisons within minority or majority culture groups, but relevantly inaccurate for comparisons made between pupils from culturally different groups.

APPENDIX A

CLASSROOM OBJECTIVES INVENTORY

CLASSROOM OBJECTIVES INVENTORY

Evaluated by				Objective
Test*	Form	Item		
I	B	1	1.	Given pairs of sounds (e.g., environmental sounds, musical tones, familiar voices, words), the learner will identify those pairs that are identical and those that are not identical.
I	B	2	2.	Given pairs of sounds, the learner will identify those that are of the same or of different duration.
I	B	3	3.	Given familiar sounds (e.g., footsteps, baby crying, friend's voice), the learner will name the sounds.
I	C	23	4.	Given sounds from different sources, the learner will indicate the directions from which the sounds come.
I	B	4	5.	Given sounds (e.g., musical selections, tones, voices), of varying pitch, the learner will identify the higher and lower pitched sounds.
I	B	5	6.	Given pairs of sounds of different duration, the learner will identify the longer or shorter sound in each pair.
I	B	6	7.	Given a series of sounds, the learner will identify the sounds in the order presented.
I	A	3	8.	Given a series of numerals, words, or phrases, the learner will repeat them in the order presented.
I	B	7	9.	Given a short rhythmic sound pattern, the learner will identify the pattern (e.g., by tapping it out, circling a graphic representation).
I	C	10	10.	Given an oral direction, the learner will repeat it.
I	A	2	11.	Given an oral direction, the learner will answer a question about it.
I	A	4	12.	Given a set of commands, the learner will follow them in the proper sequence.
G	C	2	13.	Given the same set of directions twice, with one step omitted the second time, the learner will identify the omission.

---

*Code: I = Individual Test
G = Group Test
TR = Teacher Rated

Test	Form	Item		
I	A	5	14.	The learner will give correct directions orally.
I	C	5	15.	After hearing a two-line rhyme, the learner will repeat the words that rhyme.
G	B	4	16.	After hearing a phrase or a sentence which is repeated with a word omitted the second time, the learner will identify the missing word.
I	B	8	17.	Given various sounds (e.g., the letter sounds), the learner will imitate or reproduce the sounds.
I	C	6	18.	After hearing a word, phrase, sentence, or familiar poem, the learner will repeat it.
G	B	2	19.	After listening to a selection, the learner will identify its main ideas.
I	B	17	20.	After listening to a selection, the learner will construct an appropriate title.
I	A	11	21.	After listening to a selection, the learner will name its main characters.
I	A	13	22.	After listening to a sentence or selection, the learner will answer specific oral questions about its content.
G	A	5	23.	After listening to a story, the learner will identify the main events in the proper order.
G	A	18	24.	After hearing descriptive words, phrases, or sentences, the learner will select from a series of pictures the event or object that was described.
I	B	20	25.	After hearing a story, poem, or passage, the learner will describe what he hears.
I	A	7	26.	After hearing a story, poem, or passage in which an emotion is depicted, the learner will describe the emotion.
I	C	3	27.	The learner will answer simple oral questions about himself, his family, school, play, the community, etc.
I	A	1	28.	Shown familiar objects, or pictures of objects or activities, the learner will orally identify what he sees.

Test	Form	Item		
I	C	4	29.	The learner will orally describe the functions of familiar objects (e.g., materials used at school).
G	B	10	30.	Given orally the function of a familiar object, the learner will identify that object.
I	C	7	31.	Presented with a familiar object, the learner will describe it orally.
G	A	1	32.	After hearing the description of an object, activity, landmark, community figure, etc., the learner will identify it.
G	A	13	33.	Given a word or phrase orally, the learner will select from among several pictures the one that represents the word or phrase.
I	A	14	34.	The learner will classify several items into groups according to his own or a given rationale.
G	A	14	35.	The learner will identify from among several items those that do not belong to a given class or set.
I	B	13	36.	The learner will identify or explain similarities and differences of objects.
G	C	4	37.	The learner will identify or describe the details of a picture.
G	C	5	38.	The learner will identify or describe the main idea of a picture.
G	A	11	39.	The learner will identify the meaning of symbols or objects (e.g., colors of a traffic light).
G	C	3	40.	The learner will identify words, pictures, or objects representing similar concepts.
G	B	5	41.	The learner will identify phrases or pictures as fact or fantasy.
I	A	9	42.	The learner will tell a brief story about a given picture or set of pictures.
I	A	12	43.	Given a picture of a child expressing an emotion, the learner will orally describe the emotion.

Test	Form	Item	
I	B	22	44. Given a picture of a child expressing an emotion, the learner will explain what he thinks caused it.
I	C	2	45. The learner will count items.
I	B	10	46. The learner will count to a given number.
I	C	8	47. The learner will use ordinal numbers to indicate position.
G	A	6	48. The learner will identify numerals.
I	A	22	49. Given an oral command dealing with "left" or "right," the learner will follow the command correctly.
G	B	7	50. Given a map and an oral cue dealing with "north," "south," "east," or "west," the learner will follow the command correctly.
I	B	9	51. Given a simple oral command, the learner will follow it correctly.
G	A	12	52. Given simple written directions, the learner will follow them correctly.
I	C	22	53. Given an oral question dealing with color, and given a color cue, the learner will respond orally, using a complete sentence corresponding to the cue.
G	C	7	54. Given a color cue and a choice of color words, the learner will identify the color word which corresponds to the cue.
G	A	20	55. Given a written question dealing with color, and given a color cue, the learner will write the answer, using a complete sentence corresponding to the cue.
I	A	16	56. Given an oral question dealing with time, and given a picture cue, the learner will respond orally, using a complete sentence.
G	B	12	57. Given a picture cue and a group of written or numerical expressions of time, the learner will identify the expression of time which corresponds to the cue.
G	C	20	58. Given a written question dealing with time, and given a picture cue, the learner will write the answer, using a complete sentence with correct word expression or numerical notation.

Test	Form	Item		
I	A	17	59.	Given an oral question dealing with the date, and given a calendar cue, the learner will respond orally, using a complete sentence.
G	C	11	60.	Given a calendar cue and a group of numerical or written representations of the date, the learner will identify the date which corresponds to the cue.
G	B	20	61.	Given an oral question dealing with the date, and given a calendar cue, the learner will write the answer, using a complete sentence.
TR			62.	During free time in class, the learner will speak to classmates in English, independent of classroom requirements.
TR			63.	In a playground situation, the learner will communicate in English with friends.
TR			64.	Given an opportunity, the learner will volunteer to make an announcement, deliver a message, etc., to a class, teacher, or office clerk in English.
TR			65.	Given a free silent period in class and a choice of reading materials in English or his native language, the learner will choose to read a book, magazine, or newspaper in English.
G	C	1	66.	The learner will identify pairs of words beginning with the same consonant sound and those beginning with different consonant sounds.
I	C	21	67.	Given a set of words all beginning with the same initial consonant sound, the learner will reproduce the initial consonant sound.
G	C	16	68.	The learner will identify from given words or pictures those having the same beginning consonant sound.
G	C	12	69.	Given words or pictures of objects, all but one beginning with the same consonant sound, the learner will identify the one having a different initial sound.
I	C	11	70.	Given a word, the learner will state another word beginning with the same consonant sound.
G	A	9	71.	The learner will identify pairs of words ending with the same consonant sound and those ending with different consonant sounds.

Test	Form	Item	
I	A	18	72. Given a set of words all ending with the same consonant sound, the learner will reproduce the final consonant sound.
G	C	14	73. The learner will identify from given words or pictures those having the same final consonant sound.
G	B	11	74. Given words or pictures of objects, all but one ending with the same consonant sound, the learner will identify the one having a different final sound.
I	B	21	75. Given a word, the learner will state another word ending with the same consonant sound.
I	C	18	76. Given a word ending with a final consonant sound, the learner will substitute other final consonant sounds to make new words.
G	A	4	77. The learner will identify pairs of words containing the same medial consonant sound and those containing different medial consonant sounds.
I	A	15	78. Given a list of words all containing the same medial consonant sound, the learner will reproduce the medial consonant sound.
G	B	18	79. Given words or pictures of objects, all but one containing the same medial consonant sound, the learner will identify the one having a different medial consonant sound.
I	A	21	80. Given a word, the learner will state another word having the same medial consonant sound.
G	A	2	81. Given a set of words, the learner will identify those that rhyme.
I	A	8	82. Given a set of words, all rhyming but one, the learner will identify the one that does not rhyme.
G	B	6	83. The learner will identify pairs of words that rhyme and pairs that do not rhyme.
G	B	16	84. Given a rhyming couplet with an incomplete last line and a group of words or pictures of objects, the learner will select the word which best completes the rhyme.

Test	Form	Item		
I	B	11	85.	Given a word, the learner will name words which have the same rhyme ending.
I	B	15	86.	Given a series of rhyming words, the learner will reproduce the phonogram.
G	A	10	87.	The learner will differentiate between phrases and complete sentences.
I	A	23	88.	The learner will construct complete sentences using past, present and future forms.
G	B	1	89.	Given words, the learner will identify those which are singular and those which are plural.
I	C	13	90.	Given a singular form of a word, the learner will give its plural form.
I	B	19	91.	Given the plural form of a word, the learner will give its singular form.
I	C	20	92.	The learner will describe objects or pictures using the correct singular or plural form.
I	A	19	93.	Given a sentence, the learner will repeat it, changing specified words from singular to plural or vice versa.
I	B	16	94.	The learner will use correct verb forms in daily speech.
I	C	15	95.	The learner will answer questions using the correct person and tense.
I	A	10	96.	The learner will complete or construct sentences using a given verb form.
I	C	12	97.	The learner will identify the two parts of a given compound word.
G	C	9	98.	The learner will combine given words (or illustrations of objects) to form compound words.
G	A	7	99.	Given words, the learner will identify those which are compound.
G	B	3	100.	The learner will identify possessive nouns and pronouns in given phrases and sentences.
I	A	20	101.	The learner will construct sentences using given possessive nouns and pronouns.

Test	Form	Item		
I	C	9	102.	The learner will repeat given phrases and sentences substituting one possessive for another.
I	C	17	103.	The learner will answer questions using appropriate possessives.
I	C	1	104.	Shown a body part on a person, a doll, or a picture, the learner will name it.
G	A	3	105.	Given the name of a part of the body, the learner will identify its function.
G	A	8	106.	Given a description of a part of the body, the learner will identify it.
G	B	8	107.	The learner will identify missing body parts in incomplete illustrations.
TR			108.	The learner will hold a book properly, at a proper distance, and will turn the pages correctly.
TR			109.	The learner will properly hold and use a pencil or crayon to complete such tasks as drawing a simple picture, coloring within the boundary of an outline, copying a given illustration.
I	B	12	110.	Given upper or lower case letters in manuscript, the learner will identify each letter name.
G	C	17	111.	Given an upper or lower case letter in manuscript, the learner will find it on an alphabet chart.
G	B	17	112.	Given an upper or lower case letter, the learner will identify its corresponding lower or upper case form.
G	C	15	113.	Given a set of upper or lower case letters, the learner will identify those that are identical and those that are different.
G	B	14	114.	Given a set of upper or lower case letters, the learner will identify the letter that is named.
G	C	10	115.	The learner will identify words written in manuscript that begin with a designated letter.
G	A	16	116.	The learner will identify whether given letters are in upper or lower case.
I	C	14	117.	The learner will name the letters in given words written in manuscript.

Test	Form	Item		
I	B	18	118.	The learner will arrange given letters in alphabetical order.
G	B	19	119.	The learner will identify the letters that immediately follow and precede a given letter in the alphabet.
I	B	23	120.	The learner will arrange given words in alphabetical order.
G	C	13	121.	The learner will identify vowels in the alphabet or in words.
G	C	19	122.	The learner will identify consonants in the alphabet or in words.
G	C	18	123.	The learner will identify from a set of written words those beginning with the same single consonant sound as a given word.
G	C	6	124.	Given a written consonant and several pictures of objects, the learner will identify the object whose name begins with the given consonant.
I	B	14	125.	The learner will say a given written word, pronouncing the final single consonant correctly.
G	B	15	126.	Given a word orally, or a picture of an object, the learner will identify its initial consonant digraph.
G	C	8	127.	Given a written consonant and several pictures of objects, the learner will identify the object whose name ends with the given consonant.
G	A	19	128.	Given a word orally, or a picture of an object, the learner will identify its medial single consonant.
I	C	19	129.	The learner will say a given written word pronouncing the initial consonant digraph correctly.
I	A	6	130.	The learner will say a given written word pronouncing the initial consonant blend correctly.
G	A	17	131.	The learner will identify from words given orally or from pictures of objects, those that begin with a given written consonant blend.
I	C	16	132.	The learner will say a given written word, pronouncing the short vowel sound correctly.

Test	Form	Item		
G	A	15	133.	From a list of written words, the learner will identify those that have the same short vowel sound.
G	B	13	134.	Given an oral word containing a long vowel sound, the learner will identify from among given written words those containing the same long vowel sound as the given word.
G	B	9	135.	From a list of written words, the learner will identify those that have the same long vowel sound.

APPENDIX B

INSTRUMENTS

Achievement Tests:
Individual Tests
Group Test

School Sentiment Index

INDIVIDUAL TEST

Form A

1. (Pointing to picture of a book.) What is this?
   ANSWER: book.

2. Listen closely to what I'm going to tell you. Pick up the ball. Put it in the box and sit down at your desk. Where did I tell you to put the ball?
   ANSWER: In the box.

3. Listen carefully to this sentence. Repeat it when I finish. "When it rains, the flowers grow." (Give stimulus only once.)
   ANSWER: Must be repeated without omissions, substitutions or additions. Ignore problems of pronunciation.

4. I'm going to ask you to do some things in order. Do not begin until I finish. First, stand up, then, clap your hands twice, last, raise your right hand over your head.
   ANSWER: Must carry out all three commands in order given.

5. Tell me how to get to the cafeteria from here. (If cafeteria is unappropriate use gym.)
   ANSWER: Any reasonable verbal directions.

6. (Pointing to card with printed word, school.) Say this word.
   ANSWER: School. Not eschool, 'kool, etc.

7. Listen to this: Mike always enjoys visits with his Uncle Joe. It had been a long time since the last visit. One day Mike asked his mother, "When are we going to visit Uncle Joe? His mother answered, "We are going today." Mike smiled. How did Mike feel then?
   ANSWER: Some form of happy.

8. I will say some words. Listen carefully for the word that does not rhyme. fill, bill, kite, mill What word does not rhyme?

9. (Pointing to set of three pictures of boy making his bed and putting toys on shelves.) Tell me a story about these pictures.
   ANSWER: Anything that relates the following information: the boy cleaned his room.

10. Answer this question. Were you tired last night? (If necessary, help child repeat) Yes, I . . .
    ANSWER: was (tired)

11. Listen to this story. It is recess time at school. Bob and Pablo play catch on the playground. Pablo has a ball that is red, blue and yellow. "Throw me the ball," says Bob. Pablo throws the ball to Bob. Bob misses the ball. The boys laugh and have fun. Who was the story about?
    ANSWER: Bob and Pablo

12. (Pointing to picture of girl smiling.) Here is a picture of a girl. What is she doing?
ANSWER: (She is) smiling, laughing.
How does she feel?
ANSWER: Anything indicating happiness.

13. Listen to this story. Summers are exciting for Dick. For two years Dick has attended a boy scout camp. The camp is located beside a lake. Their activities include swimming, fishing, and camping. Dick hopes to return to camp this summer. What did Dick do at camp?
ANSWER: Must name all three activities--swimming, fishing and camping.

14. (Pointing to pictures of a car, bus and a horse) Which picture does not belong? (wait for response) Why?
ANSWER: Any choice as long as child can verbalize reasonable rationale for such a classification.

15. I will say some words. They all have the same sound in the middle. Listen carefully to the words: wagon, August, tiger. Say the sound that is in the middle of each word.
ANSWER: /g/

16. (Pointing to clock) Look at the clock. Tell me what time it is using a complete sentence.
ANSWER: It is (It's) three o'clock.

17. (Pointing to calendar) Look at the calendar. What date is the third Wednesday? Answer in a complete sentence.
ANSWER: The third Wednesday is the twenty-first (of June).

18. I will say some words. They all end with the same sound. Listen carefully to the words: like, sack, bike. Say the sound that is at the end of each word.
ANSWER: /k/

19. I'm going to say a sentence. Then I want you to repeat the sentence changing one word from singular, to plural. Listen very carefully. 'They went to the store to buy a cookie.' Change cookie to plural and repeat the sentence.
ANSWER: Must be repeated as follows: They went to the store to buy cookies.

20. (Pointing to picture of a girl holding a ball) Look at the picture. This is Mary. This is Mary's ball. Make a sentence about Mary using the word her.
ANSWER: Any grammatically correct sentence using her as a possessive such as: This is her ball. Her name is Mary.

21. Listen carefully to this word: father. Tell me another word that has the same consonant sound in the middle.
ANSWER: Any word with the middle consonant sound /th/ as in mother, brother, leather, rather, lather, other.

22. I'm going to ask you to do something. Put your left hand on your head.
ANSWER: Carry out task.

23. (Pointing to series of pictures of dog jumping over a fence) Look at these pictures. What did the dog do?
ANSWER: Must use past tense: He jumped over the fence.

INDIVIDUAL TEST

Form B

1. Listen to these two sounds and tell me if they are made by the same thing. (Play tape of train, motorcycle) Are they made by the same thing?
   ANSWER: No.

2. Listen to these sounds and tell me which sound lasts longer. (Play tape of car horn) Which sound lasted longer?
   ANSWER: First (sound).

3. Listen to these sounds and tell me what they are. (Play tape of footsteps) What is that sound?
   ANSWER: Footsteps, someone walking.

4. Listen to these sounds and tell me which sound is higher. (Play tape of piano notes) Which sound was higher?
   ANSWER: Second, last one.

5. Listen to these sounds and tell me which sound is shorter. (Play tape of buzzes) Which sound is shorter?
   ANSWER: First.

6. Listen to these sounds. then tell me, in the order that you heard them, what each sound was. (Play tape of knock on door, etc.)
   ANSWER: Must give name of sounds in order. (1) knock on door, (2) cat meow, (3) phone, (4) dog bark.

7. Listen to these sounds. They go together in a certain way. Listen and then see if you can clap your hands in the same way. (Play tape of clapping)
   ANSWER: Must clap hands exactly like the pattern.

8. Repeat this sound after me. (Say sound /d/, not letter name--not dee)
   ANSWER: /d/

9. I'm going to ask you to do something. Pick up your pencil, please.
   ANSWER: Carry out the task.

10. I'm going to ask you to do something else. Start at 15 and count to 25.
    ANSWER: 15 to 25 without error.

11. Tell me a word that rhymes with "fat."
    ANSWER: Any word that rhymes as cat, bat, sat, hat, etc.

12. (Show card with "E" on it.) What is this letter?
    ANSWER: E

13. (Pointing to pictures of a tricycle and a bicycle) How are these different?
ANSWER: Any of the following are acceptable: wheels, frame, chain, tricycle-bicycle.

14. (Point to card with printed word, big) Say this word.
ANSWER: Big.

15. I am going to say some words that rhyme. Listen for the sound that rhymes in the words. fan, man, than, can Say the sound that rhymes in these words.
ANSWER: an

16. Look at this picture. (Pointing to picture of boy sitting at the table eating dinner) What is the boy doing? (If necessary, help child repeat) He . . .
ANSWER: Must use present progressive: is eating.

17. Listen to this story. There are all kinds of spiders. A plant spider is black and green and it has small feet. Plant spiders live in nests which they build. They make many new nests. Plant spiders catch flies for food. Tell me, what is a good title for the story?
ANSWER: 1. The spider, 2. Spiders, 3. Plant spiders.

18. (Show cards with letters) Look at these letters. Put them in alphabetical order.
ANSWER: r s t u

19. (Pointing to picture of two men and then to the picture of one man) Here are two men and here is a . . .
ANSWER: man

20. Listen to this story. Jose had a big piece of wood and a knife. He wanted to carve a dog. He carved out big hunks of wood and gave the dog four legs to stand on. He gave him a nose and two ears on the sides of his head. And on the back of the dog, he carved a small tail. How happy Jose was to have a dog carved of wood! What is the story about?
ANSWER: Anything that relates the following information: a boy carved a dog out of wood.

21. Tell me another word that ends with the same sound as log.
ANSWER: words that end with /g/ as, dog, fog, bog, lag, leg, beg, bag, etc.

22. (Pointing to picture of boy crying) Look at this picture. How does the boy feel?
ANSWER: Anything indicating sadness or pain. Why does he feel that way? ANSWER: Anything that might conceivably indicate sadness/pain.

23. (Showing 4 words on cards) Look at these words. Put them in alphabetical order.
ANSWER: apple, nest, please, trucks.

INDIVIDUAL TEST

Form C

1. (Holding up a finger) What is this called?
   ANSWER: finger

2. (Hold up seven fingers) Count these. How many are there?
   ANSWER: seven

3. How many brothers do you have?
   ANSWER: Anything reasonable: I don't have any (brothers) or, I have . . . (brothers).

4. (Pointing to picture of scissors) What is this used for?
   ANSWER: for cutting

5. Here is a rhyme. Tell me the words that rhyme. Ten little blackbirds sitting on a line, one flew away and then there were nine. What words rhyme?
   ANSWER: line, nine

6. I am going to say a sentence. When I'm through, repeat it like I said it. Listen carefully. John went to town to buy a new coat and hat.
   ANSWER: Must be repeated exactly. Ignore mispronunciation.

7. (Pointing to picture of a train) Tell me what you see in this picture.
   ANSWER: Any reasonable description of train, i.e., that it has wheels, an engine, the number of cars, etc. If student just says "train" ask him to tell you more about the train.

8. (Indicating the pages of a book) This is the first page. This is the second page and this is the . . . (If student doesn't respond, ask, "What page is this?"
   ANSWER: third (page)

9. (Pointing to sheet of paper) This paper is mine. Whose paper is this? (If necessary, help child repeat) It's . . .
   ANSWER: yours, your paper

10. I'm going to say a sentence. Repeat the sentence when I'm through. Put the book on the teacher's desk and write your name on the blackboard.
    ANSWER: Must be repeated exactly. Ignore mispronunciation.

11. Tell me another word that begins with the same sound as the word door.
    ANSWER: dog, dig, deer, dark, etc.

12. Listen carefully to this word: butterfly. What two words do you hear in the word butterfly?
    ANSWER: butter, fly

13. (Pointing to your feet) Here is a foot and here is a foot so I have two _____.
ANSWER: feet

14. (Pointing to the printed word, dress) Tell me the name of each letter in this word.
ANSWER: d r e s s (names of letters, not sounds)

15. Answer this question: Did you go to school yesterday? (If necessary, help child repeat) Yes, I . . . or No, I . . .
ANSWER: did, went, didn't go (to school yesterday)

16. (Pointing to card with printed word hat) Say this word.
ANSWER: hat. Not hot, hut, etc.

17. (Pointing to picture of boy with his dog) This dog belongs to Juan. Whose dog is this? (If necessary, help child repeat) It's . . .
ANSWER: Juan's (dog), his (dog).

18. The word mad ends with the /d/ sound. Make a new word by changing only this last sound.
ANSWER: Any word beginning with ma as in man, map, mat.

19. (Pointing to card with printed word, think) Say this word.
ANSWER: Think, NOT sink, tink, etc.

20. (Pointing to picture with three boxes) Here are three _____.
ANSWER: boxes. Plural ending must be pronounced /iz/.

21. I will say some words. They all begin with the same sound. Listen carefully to the words: take, tail, top Say the sound that begins each word.
ANSWER: /t/, NOT letter name "tee"

22. (Pointing to yellow sheet of paper) What color is this paper? Use a complete sentence to answer this question.
ANSWER: The paper is yellow (gold). It's yellow (gold).

23. (Walking behind student) Close your eyes. I'm going to clap my hands. Point to the direction the sound is coming from but, don't look! (Clap hands)
ANSWER: Student points to direction sound came from.

Group Test Forms

The response booklets for the group test forms are not presented in this report. The booklets for each form were of seven, 8 1/2" x 11" color coded pages. In addition to a number, a symbol (house, dog, cat, frog, etc.) was used to identify each test item.

For items which required other than a yes or no response, the response choices are shown in the boxes as they appeared (but reduced in size) in the response booklets.

GROUP TEST

Form A

List of Questions

1. I'm going to describe something. A teacher writes on this with chalk. It is green or black and is easy to erase.

   a. If I am describing a desk, put an X in the YES box beside the star. If I am not describing a desk, put an X in the NO box.
   b. Am I describing the board? Mark the YES box or the NO box beside the sun.
   c. Am I describing the floor? Mark the YES or the NO box beside the hat.

2. I will say some words. If all of the words rhyme, put an X in the box under YES. If not all of these words rhyme, put an X in the box under NO.

   a. Listen very carefully to the words: look, book, sand, took Do all of these words rhyme? Mark the YES box or the NO box beside the cat.
   b. Now listen to these words: cook, look, book, took Do all of these words rhyme? Mark the YES box or the NO box beside the house.

3. I'm going to ask you about a part of the body.

   a. Do we hear with our eyes? Mark the YES box or the NO box beside the bird.
   b. Do we see with our eyes? Mark YES or NO beside the dog.
   c. Do we smell with our eyes? Mark YES or NO beside the shoe.

4. I will say two words. If the two words have the same consonant sound in the middle, put an X in the box under the YES. If the two words do not have the same consonant sound in the middle, put an X in the box under NO.

   a. Listen carefully to these words: baby, happen Do the words have the same consonant sound in the middle? Put an X in the box under YES or under NO by the house.
   b. Do these two words have the same consonant sound in the middle? leather, ladder Mark YES or NO beside the sun.
   c. Here are two more words: rabbit, habit Do they have the same consonant sound in the middle? Mark YES or NO beside the hat.

5. Listen to this story very carefully: It was time for lunch, but there was no bread in the house. Mother sent Tom and Joe to the store to buy bread. At the store, they saw their friend John. He asked them to play, but they said they had to buy bread and go home for lunch. They bought the bread and went home to eat. After lunch, they went out to play.

   a. Did the children go to the store before lunch? Mark YES or NO beside the flower.
   b. Did the children go to the store after they went out to play? Mark YES or NO beside the dog.

6. (write on board number 39)

   a. Is the number on the board a "38"? Mark the YES box or the NO box beside the shoe.
   b. Is the number 39? Mark the YES or NO beside the cat.
   c. Is the number 36? Mark the YES or NO beside the frog.

7. I am going to say a word. If the word is made by combining two words, put an X in the box under YES. If the word is not made by combining two words, put an X in the box under NO.

   a. Listen carefully to the word: paper. Is the word paper made by combining two words? Mark the YES box or the NO box beside the dog.
   b. Is the word barnyard made by combining two words? Mark YES or NO beside the sun.
   c. Is the word Sunday made by combining two words? Mark YES or NO beside the hat.

8. I am going to describe a part of the body. This part is at the end of your leg and has five toes.

   a. Is this part your hand? Mark YES or NO beside the fish.
   b. Did I describe an arm? Mark YES or NO beside the ring.
   c. Did I describe a foot? Mark YES or NO beside the house.

9. I will say two words. If the two words end with the same sound, put an X in the box under YES. If the two words do not end with the same sound, put an X in the box under NO.

   a. Listen carefully to the words: ball, bill Do the words end with the same sound? Put an X in the YES box or in the NO box beside the shoe.
   b. Do these words end with the same sound? five, leaf Mark YES or NO beside the flower.
   c. Here are two more words: mat, did Do these words end with the same sound? Mark YES or NO beside the star.

Group Test: Form A

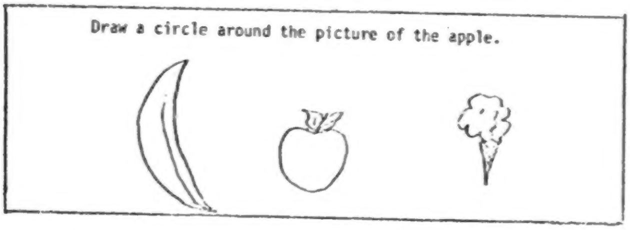
10. Listen to this group of words. If the words make a complete sentence, put an X in the box under YES. If the words do not make a complete sentence, put an X in the box under NO.

    a. Listen carefully. "a big red ball in the sand" Do the words make a complete sentence? Mark YES or NO beside the house.
    b. Listen carefully to these words: "Later, they ate hot dogs in the park." Is this a complete sentence? Mark YES or NO beside the sun.
    c. Listen to these words: "The children went to the zoo." Is this a complete sentence? Mark YES or NO beside the frog.

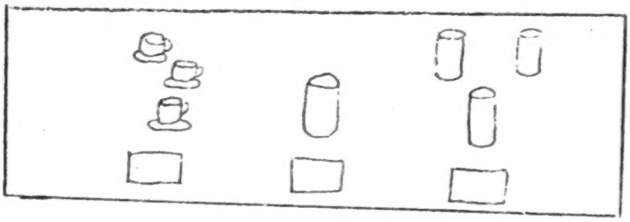
11. Now look at the picture of the traffic light on your paper. What does the red light mean?

    a. If it means GO, put an X in the YES box. If it does not mean GO, put an X in the NO box. Mark YES or NO beside the ring.
    b. Does the red light mean TURN? Mark YES or NO beside the flower.
    c. Does the red light mean STOP? Mark YES or NO beside the star.

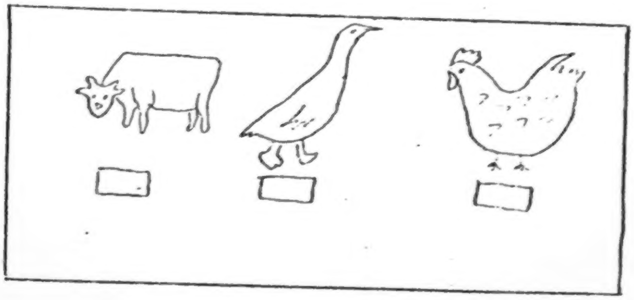
12. Read the directions beside the sun. Then follow the written directions.


Draw a circle around the picture of the apple.

13. Look at the three pictures. Now, listen to this word: glasses put an X in the box under the picture that shows the glasses.



14. Look at the three pictures. Which picture does not belong with pictures of birds? Put an X in the box under the picture that does not belong.



15. Look at the words. Put an X in the box under the word that has the same vowel sound as in pin.

ride	light	swim
☐	☐	☐

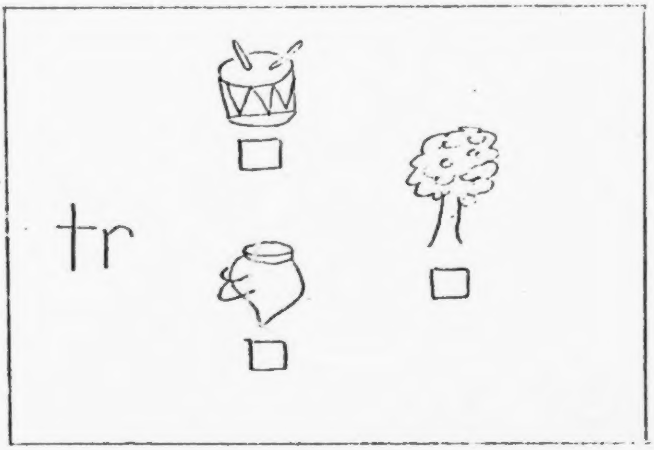
16. Look at the letter beside the sun. Is it a capital letter?

    a. If it is a capital letter, put an X in the box under YES. If it is not a capital letter, put an X in the box under NO.
    b. Now look at the next letter. Is it a capital letter? Mark YES or NO.

F YES ☐ NO ☐

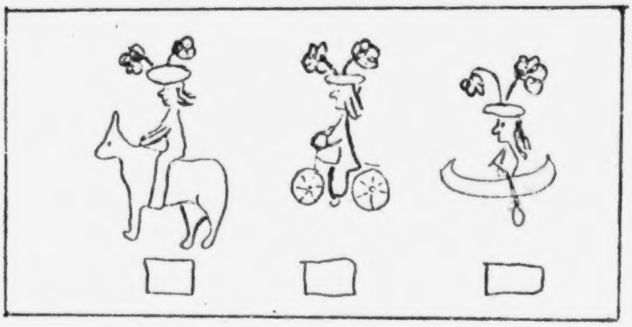
e YES ☐ NO ☐

17. Look at the letters. Put an X in the box under the picture that begins with the same sound as these letters.



Group Test: Form A

18. Look at the picture and listen carefully.
Jane has two pig tails. She is riding a donkey. She has a funny hat with flowers. Put an X in the box under the picture that describes Jane.



19. Listen to this word: carry
What is the middle consonant sound? Put an X in the box under the middle consonant sound.

D	H	R
☐	☐	☐

20. Look at the question on your paper. Write the answer to the question on the lines beside the frog using a complete sentence.

Is this page yellow?

____

____

GROUP TEST

Form B

List of Questions

1. I am going to say some words. Put an X in the box under YES if the word means more than one. Put an X in the box under NO if the word does not mean more than one.

   a. Listen to this word: man
      Does this word mean more than one? Mark the YES box or the NO box beside the sun.
   b. Here is another word: dress
      Does this word mean more than one? Mark the YES or NO box beside the flower.
   c. Listen to this word: women
      Does this word mean more than one? Mark the YES or NO box beside the frog.

2. I'm going to read a short story. When I'm finished, I'm going to ask you some questions about it.

   The girl has a cat.
   The girl's name is Mary.
   The cat's name is Puff.
   Puff is white.

   a. Is the story about a girl and her turtle? Mark the YES or NO box beside the dog.
   b. Is the story about a girl and her cat? Mark the YES or NO box beside the star.
   c. Is the story about a girl and her pig? Mark the YES or NO box beside the hat.

3. Listen to this sentence: The girls and the teacher played with the boy's ball. What word in the sentence tells you who owns the ball?

   a. Does the word teacher tell you who owns the ball? Mark YES or NO beside the sun.
   b. Does the word boy's tell you who owns the ball? Mark YES or NO beside the flower.
   c. Does the word girls tell you who owns the ball? Mark YES or NO beside the ring.

4. Listen carefully to this sentence: Susie has two dolls and a teddy bear. Listen again as I'm going to leave out a word.
   Susie has dolls and a teddy bear.

a. What word did I leave out: Was the word two?
Mark the YES box or the NO box beside the airplane.
b. Did I leave out the word teddy bear? Mark the YES or NO beside the dog.

5. Listen to these sentences: It's a magic bean! It's a bean that will let us have what we wish.

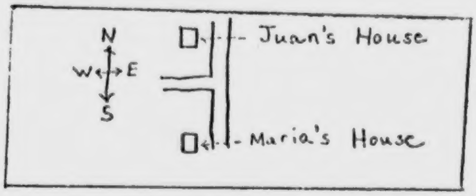
a. Can a bean be really magic and give us what we wish? If a bean can be magic, put an X in the box under YES. If a bean cannot be magic, put an X in the box under NO. Mark YES or NO beside the star.
b. Can a bean really fly? Mark YES or NO beside the hat.
c. Can we really eat a bean? Mark YES or NO beside the shoe.

6. I will say two words. If the two words rhyme, put an X in the box under the YES. If the two words do not rhyme, put an X in the box under the NO.

a. Listen carefully to the two words: quick, sick
Do the words rhyme? Mark YES or NO beside the cat.
b. Listen to these words: them, than
Do they rhyme? Mark YES or NO beside the bird.
c. Do these words rhyme? sad, dad
Mark YES or NO beside the star

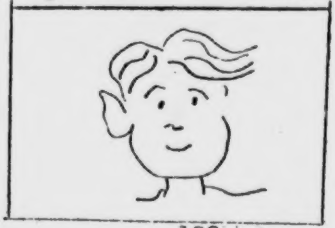
7. Look at the map.

a. Is Juan's house south of Maria's house? Mark the YES box or the NO box beside the cat.
b. Look at the map again. Is Juan's house north of Maria's? Mark YES or NO beside the dog.
c. Look at the map again. Is Juan's house east of Maria's? Mark YES or NO beside the frog.



8. Look at the picture. Something in this picture is missing.

a. Is the nose missing? Mark YES or NO in the box beside the hat.
b. Is an ear missing? Mark YES or NO beside the plane.
c. Is an eyebrow missing? Mark YES or NO beside the shoe.

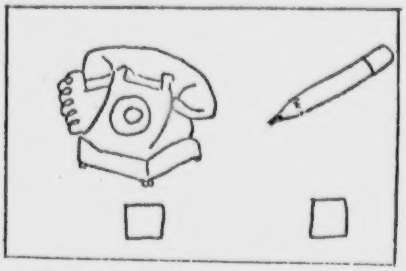


Group Test: Form B

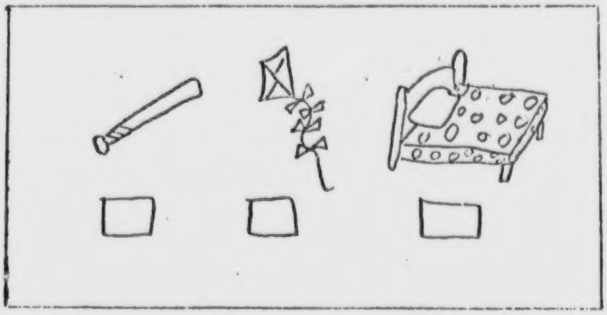
9. Look at the words. Put an X in the box below the word which has the same vowel sound as tree.

send ☐ me ☐ leg ☐

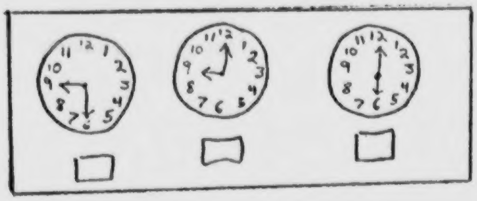
10. Look at these pictures. Put an X in the box under the picture of the object that you use to write your name.



11. Look at the pictures. Put an X in the box below the object that does not end with the same sound as net.



12. Look at the clocks. Put an X in the box under the clock that says 9:30.



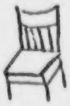
13. Look at the words. Put an X in the box below the word that has the same vowel sound as cake.

cat	sack	late
☐	☐	☐

14. Look at the four letters. Put an X in the box under the letter "G."

y	g	b	d
☐	☐	☐	☐

15. Look at the picture above the letters. Put an X in the box under the sound that the picture begins with.

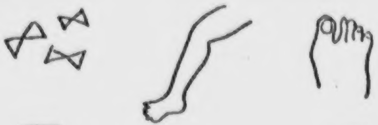


sh	ch	c
☐	☐	☐

16. Listen to this rhyme. The last word of the rhyme is missing. Complete the rhyme by choosing the picture which best finishes the rhyme. Listen carefully:

Touch your head, your eyes and nose.
Now bend over and touch your __________.

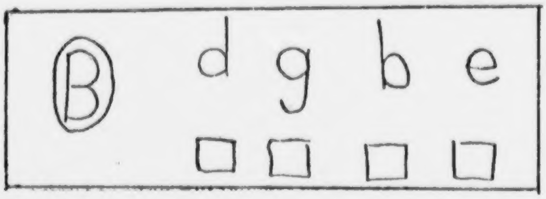
Put an X in the box under the picture that best finishes the rhyme.



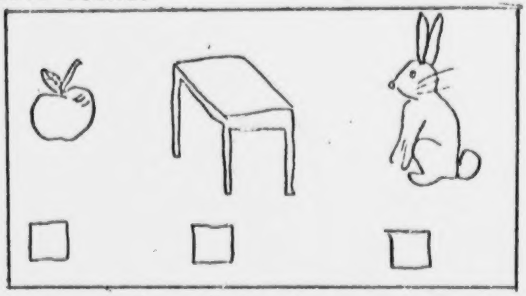
☐ ☐ ☐

Group Test: Form B

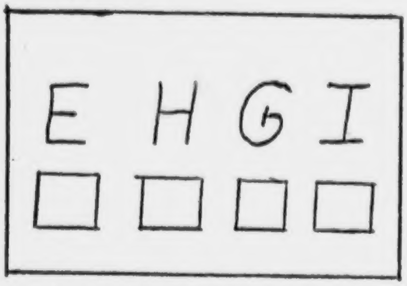
17. Look at the letter in the circle.
Put an X in the box under the letter that has the same name as the letter in the circle.



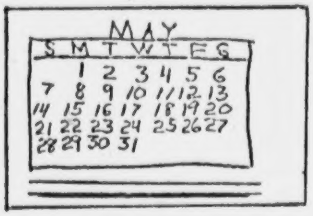
18. Look at the pictures. Put an X in the box under the picture that has a different middle sound.



19. Look at the letters. Put an X in the box under the letter that comes right after "F"in the alphabet.



20. Look at the calendar. What date is the third Sunday of the month? Write out your answer using a complete sentence.



MAY

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

GROUP TEST

Form C

List of Questions

1. I will say two words. If the two words begin with the same sound, put an X in the box under YES. If the two words do not begin with the same sound, put an X in the box under NO.

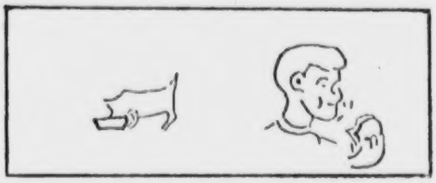
   a. Listen to the words: thumb, some
   Do the words begin with the same sound? Mark YES or NO box beside the flower.
   b. Now, listen to these words: sink, think
   Do these words begin with the same sound? Mark the YES or NO box beside the sun?

2. Listen to these directions: "Open your desk. Take out your pencil. Open your workbook to page six." Listen again. This time I'm going to leave out one part. "Open your desk. Open your workbook to page six." What part did I leave out?

   a. Was it, "Open your desk?" Mark YES or NO beside the star.
   b. Did I leave out, "Take out your pencil?" Mark YES or NO beside the shoe.
   c. Did I leave out, "Open your workbook to page six?" Mark YES or NO beside the dog.

3. Look at the pictures of the boy and the dog. What is happening in these pictures?

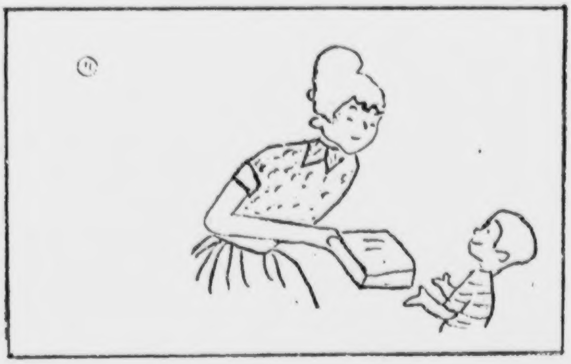
   a. Are they eating? Mark the YES or NO beside the hat.
   b. Look again. Are they washing? Mark the YES or NO beside the bird.



4. Look at the picture of the teacher and the boy.

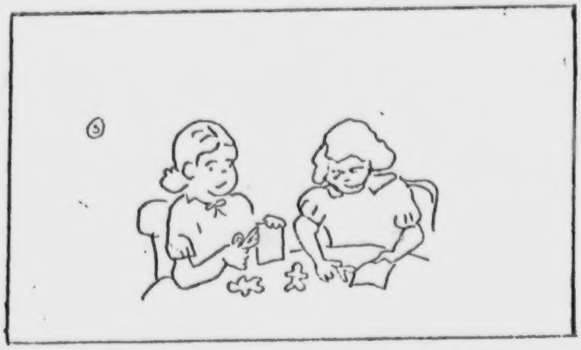
   a. Does the teacher have stripes on her blouse? If she does have stripes on her blouse, put an X in the box under YES. If she does not have stripes on her blouse, put an X in the box under NO. Mark YES or NO beside the flower.

b. Look again. Does the boy have dots on his shirt? Mark YES or NO beside the sun.

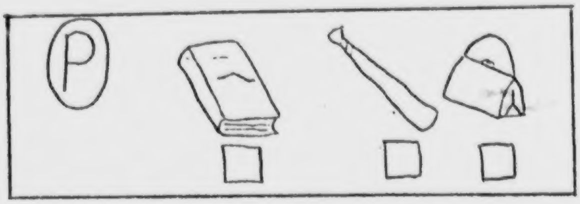


5. Look at the picture of the two girls. What is happening in this picture?

   a. Are the girls playing with blocks? Mark YES or NO beside the star.
   b. Look again. Are the girls painting? Mark YES or NO beside the shoe.
   c. Look again. Are the girls cutting out pictures? Mark YES or NO beside the dog.

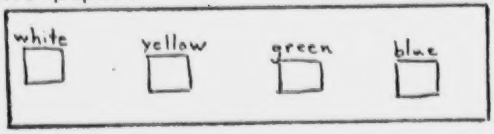


6. Look at the letter in the circle. Put an X in the box under the picture that begins with the same sound as the letter in the circle.

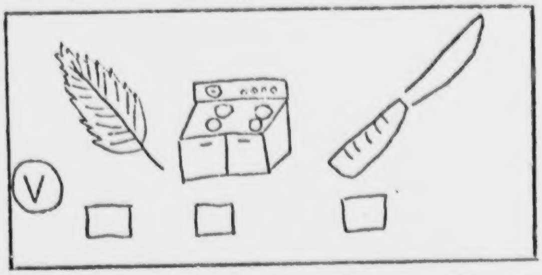


Group Test: Form C

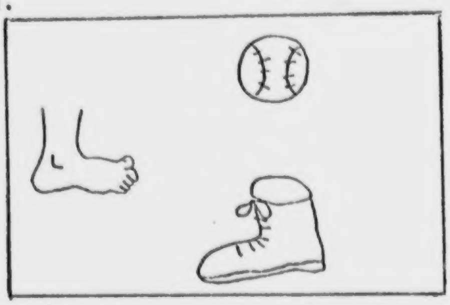
7. (Showing page of yellow.) Put an X in the box under the word that tells the color of this paper.


white
yellow
green
blue

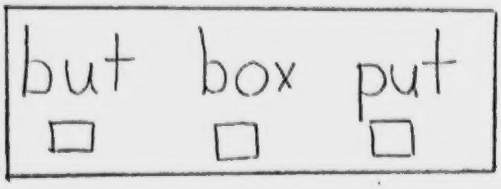
8. Look at the letter in the circle. Put an X under the object whose name ends with the same sound as this letter



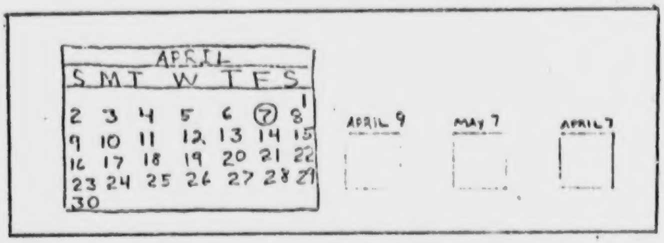
9. Look at the picture on your paper. Draw a line between the two pictures that make a word.



10. Look at the three words. Put an X in the box under the word that begins with a "P".

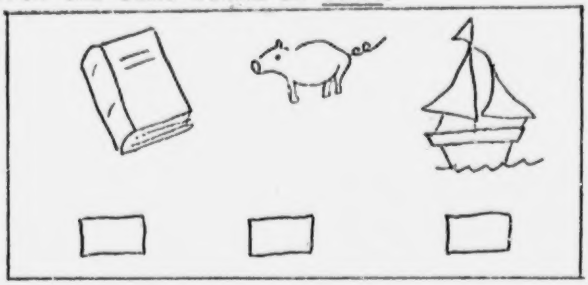


11. What date is circled on the calendar? Put an X in the box under the right date.


APRIL
S M T W T F S
APRIL 9
MAY 7
APRIL 7

Group Test: Form C

12. Look at the pictures. Put an X in the box under the object that does not begin with the same sound as bark.

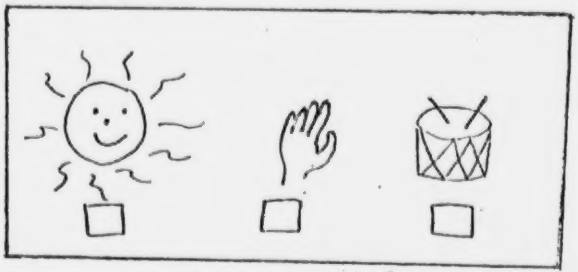


13. Look at the letters. Find the vowel. Put an X in the box under the vowel.

T H U L

☐ ☐ ☐ ☐

14. Look at the pictures. Put an X in the box under the word that ends with the same sound as man.



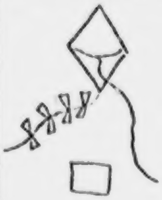
15. Look at the letters. Put an X in the box under the letter that is different.

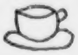
D D I D

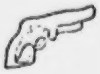
☐ ☐ ☐ ☐

Group Test: Form C

16. Look at the pictures. Put an X in the box under the object that begins with the same sound as goat.







☐	☐	☐

17. Look at the letters. Find the letter "m." Put an X in the box under the letter "m."

Cc	Nn	Ff	Mm
☐	☐	☐	☐

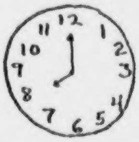
18. Listen to this word: yard Put an X in the box under the word that begins with the same sound.

jump	jam	yellow
☐	☐	☐

19. Look at the letters. Find the consonant. Put an X in the box under the consonant.

O	M	U	A
☐	☐	☐	☐

20. Read the question. Write your answer on the lines by the ring using a complete sentence.



What time is it?

____

____

School Sentiment Index

Subtest*	Positive Response	Questions
A1	Yes	1. Can you give a good talk in front of your class?
B3	No	2. When you try to do your schoolwork, do other children bother you?
A1	No	3. Do you feel sad when you are in school?
B1	Yes	4. Do you like to tell stories in front of your class?
B3	No	5. Do other children get you in trouble at school?
B4	Yes	6. Is school a happy place for you to be?
B4	No	7. Do you get sick at school a lot?
A2	No	8. Do you wish you were someone else?
B2	Yes	9. Are adults at school friendly to children?
B1	Yes	10. Do you like to read in school?
A2	No	11. Do you get very mad when you have to wait your turn to do something?
B3	Yes	12. Are the children in your class friendly to you?
B2	No	13. Are you afraid to go to the office at your school?
B1	Yes	14. Do you like to paint pictures at school?
B4	No	15. Do you like to stay home from school?
B1	Yes	16. Do you like to write stories in school?
B4	Yes	17. Do you like school more than your friends do?
A1	Yes	18. Are you a good reader?

---

*Subtest Code
  Self Concept:
    A1 = School
    A2 = General

Attitude toward school:
  B1 = School Activities
  B2 = School Structure and Climate
  B3 = Peers
  B4 = General

B1	Yes	19.	Do you like arithmetic problems at school?
B2	No	20.	Do you wish you were in a different class at school?
B1	Yes	21.	Do you like to learn about science?
B1	Yes	22.	Do you like to sing songs with your class?
B2	No	23.	Does your school have too many rules?
B3	No	24.	Do you always have to do what the other children want to do in school?
B3	Yes	25.	Do you like the other children in your class?
B4	Yes	26.	Are you always in a hurry to get to school?
A2	Yes	27.	Are you a good child?
B2	Yes	28.	Do other people at school care about you?
A2	Yes	29.	Is it fun to do the things you do?
B4	Yes	30.	Do you like to come to school a lot?
A2	No	31.	When you are in school do you wish you could quit?
A2	Yes	32.	Are you good in your schoolwork?
A2	No	33.	Would you like to stay home instead of going to school?
A2	Yes	34.	Is it easy for you to do things at school?
A2	Yes	35.	Can you get good grades if you want to?
A2	No	36.	Do you forget many things that you learn?
A2	Yes	37.	Do you like the teacher to ask you a question in front of the other children?
A2	No	38.	Is it hard for you to talk in your class?
A2	No	39.	Do lots of other children finish their schoolwork before you?
A1	Yes	40.	Do you like to be who you are?

APPENDIX C

PRE- AND POST-TEST PERFORMANCE ON SPECIFIC EDUCATIONAL OBJECTIVES FOR VARIOUS SUBSAMPLES

Table C-1: Percent of Students Passing Items on Pre- and Post-tests Identified as Relevant or Not Relevant for Their Classroom.

Table C-2: Percent of Students at Four Age Levels Passing Items on Pre- and Post-tests of Classroom Objectives.

Table C-3: Percent of Male and Female Student Passing Items on Pre- and Post-tests of Classroom Objectives.

Table C-4: Percent of Students of Three Language Groups (Teacher Rated Ability in English) Passing Items on Pre- and Post-tests of Classroom Objectives.

Table C-1: Percent of Students Passing Items on Pre- and Post-tests Identified as Relevant or Not Relevant for Their Classroom

		Relevant Objective: % Passing				Not Relevant Objective: % Passing			
Objective	Item	Pre	N	Post	N	Pre	N	Post	N
Differentiate likenesses, differences in sounds									
1. Identify identical/different sounds	I-B-1	67	(48)	82	(50)	100	(5)	100	(5)
2. Identify sounds of same/different duration	I-B-2	70	(33)	77	(35)	93	(15)	67	(15)
Identify common environmental sounds									
3. Name familiar sounds	I-B-3	72	(43)	71	(45)	80	(10)	80	(10)
Differentiate directions, sources of sounds									
4. Indicate direction of sound	I-C-23	83	(30)	93	(30)	80	(25)	87	(23)
Distinguish sound characteristics									
5. Identify lower/higher pitched sounds	I-B-4	39	(33)	51	(35)	60	(10)	70	(10)
6. Identify longer/shorter sounds	I-B-5	82	(38)	75	(40)	90	(10)	60	(10)
Listen for series									
7. Identify sounds in order	I-B-6	33	(18)	80	(20)	25	(20)	45	(20)
8. Repeat series of numerals, words, phrases in order	I-A-3	88	(24)	92	(24)	90	(10)	78	(9)
9. Identify short sound pattern	I-B-7	52	(23)	80	(30)	70	(10)	67	(15)
Recall, follow directions									
10. Repeat oral direction	I-C-10	43	(40)	45	(40)	13	(15)	46	(13)
11. Answer question about direction	I-A-2	51	(39)	84	(38)	--	(0)	--	(0)
12. Follow commands in sequence	I-A-4	66	(29)	86	(28)	--	(0)	--	(0)
13. Identify omission in set of directions	G-C-2a	67	(127)	60	(121)	60	(10)	26	(19)
	" b	61	"	68	"	60	"	53	"
	" c	69	"	70	"	50	"	21	"
	"a,b	49	"	49	"	50	"	11	"
14. Give directions orally	I-A-5	59	(34)	70	(33)	--	(0)	--	(0)

Objective	Item	Relevant Objective: % Passing Pre N	Relevant Objective: % Passing Post N	Not Relevant Objective: % Passing Pre N	Not Relevant Objective: % Passing Post N
Listen for specific details					
15. Repeat rhyming words	I-C-5	30 (40)	40 (40)	0 (15)	15 (13)
16. Identify missing word, phrase or sentence	G-B-4a	71 (77)	76 (72)	80 (25)	73 (26)
	" b	57 "	76 "	68 "	73 "
	"a,b	47 "	67 "	56 "	65 "
Imitate sounds					
17. Reproduce letter sounds	I-B-8	100 (47)	96 (50)	-- (0)	-- (0)
Repeat oral selections					
18. Repeat word, phrase, sentence or poem	I-C-6	31 (35)	48 (33)	35 (20)	35 (20)
Listen for main ideas					
19. Identify main ideas in oral selection	G-B-2a	62 (68)	75 (57)	69 (86)	64 (77)
	" b	60 "	74 "	72 "	61 "
	" c	49 "	81 "	65 "	65 "
	" a,b	46 "	58 "	58 "	35 "
20. Give title to oral selection	I-B-17	50 (18)	60 (20)	48 (25)	36 (25)
21. Name main characters in oral selection	I-A-11	45 (29)	46 (28)	60 (5)	60 (5)
Listen for details					
22. Answer specific questions about oral selection	I-A-13	24 (34)	39 (33)	-- (0)	-- (0)
Identify sequence					
23. Identify main events of oral selection in order	G-A-5a	63 (57)	67 (52)	51 (72)	53 (74)
	" b	56 "	60 "	43 "	43 "
	" a,b	46 "	48 "	28 "	27 "
Interpret descriptive language					
24. Select pictures of event/object described	G-A-18	79 (122)	80 (107)	83 (47)	76 (49)
25. Describe what he hears (oral selection)	I-B-20	61 (28)	77 (30)	45 (20)	65 (20)

Objective	Item	Relevant Objective: % Passing		Not Relevant Objective: % Passing	
		Pre N	Post N	Pre N	Post N
Recognize emotions					
26. Describe emotion in story, poem, passage	I-A-7	91 (34)	94 (33)	-- (0)	-- (0)
Utilizing vocabulary appropriate to self and environment					
27. Answer simple questions about himself, family, etc.	I-C-3	96 (45)	100 (42)	90 (10)	100 (10)
28. Orally identify familiar objects	I-A-1	100 (29)	100 (29)	100 (10)	89 (9)
29. Orally describe functions of familiar objects	I-C-4	94 (50)	91 (47)	100 (5)	80 (5)
30. Identify familiar objects by function	G-B-10	72 (99)	84 (93)	72 (25)	88 (26)
31. Orally describe familiar objects	I-C-7	91 (45)	95 (43)	70 (10)	90 (10)
32. Identify object, activity, landmark, etc. from description	G-A-1a	49 (77)	49 (76)	75 (52)	40 (50)
	" b	38 "	59 "	40 "	58 "
	" c	61 "	75 "	50 "	46 "
	" a,b	27 "	42 "	31 "	30 "
33. Select picture representing word/phrase	G-A-13	71 (77)	79 (63)	52 (56)	50 (60)
Interpret, classify and relate objects, pictures, words					
34. Classify items according to rationale	I-A-14	88 (24)	100 (23)	90 (10)	100 (10)
35. Identify items not belonging to a set	G-A-14	71 (129)	80 (122)	-- (0)	-- (0)
36. Identify similarities/differences of objects	I-B-13	98 (43)	93 (45)	100 (5)	80 (5)
37. Identify details of picture	G-C-4a	79 (96)	74 (117)	71 (49)	85 (33)
	" b	89 "	86 "	80 "	94 "
	" a,b	73 "	69 "	65 "	82 "

Objective	Item	Relevant Objective: % Passing Pre	N	Post	N	Not Relevant Objective: % Passing Pre	N	Post	N
38. Identify main idea of picture	G-C-5a	96	(53)	89	(75)	85	(41)	96	(26)
	" b	94	"	92	"	85	"	100	"
	" c	92	"	92	"	80	"	96	"
	" a,b	92	"	89	"	83	"	96	"
39. Identify meaning of symbols/objects	G-A-11a	77	(142)	87	(126)	64	(11)	50	(16)
	" b	75	"	75	"	73	"	75	"
	" c	76	"	79	"	73	"	56	"
	" a,b	62	"	68	"	45	"	31	"
40. Identify representations of similar concepts	G-C-3a	88	(60)	91	(74)	93	(28)	100	(20)
	" b	95	"	81	"	89	"	90	"
	" a,b	86	"	80	"	82	"	80	"
41. Identify phrases/pictures as fact or fantasy	G-B-5a	62	(77)	78	(72)	53	(38)	48	(33)
	" b	70	"	92	"	50	"	79	"
	" c	78	"	81	"	68	"	64	"
	" a,b	55	"	74	"	34	"	42	"
42. Tell brief story about picture (s)	I-A-9	79	(24)	83	(24)	70	(10)	100	(9)
Utilize vocabulary appropriate to needs and emotions									
43. Describe emotion expressed in picture	I-A-12	94	(34)	100	(34)	100	(5)	100	(5)
44. Explain cause of emotion expressed in picture	I-B-22	74	(23)	92	(25)	87	(15)	87	(15)
Interpret number concepts									
45. Count items	I-C-2	96	(50)	96	(47)	100	(5)	100	(5)
46. Count to a given number	I-B-10	53	(47)	60	(50)	60	(5)	100	(5)
47. Use ordinal number for position	I-C-8	94	(35)	100	(35)	80	(5)	100	(5)
48. Identify numerals	G-A-6a	68	(169)	72	(156)	--	(0)	--	(0)
	" b	72	"	78	"	--	"	--	"
	" c	76	"	74	"	--	"	--	"
	" a,b	57	"	67	"	--	"	--	"

		Relevant Objective: % Passing				Not Relevant Objective: % Passing			
Objective	Item	Pre	N	Post	N	Pre	N	Post	N
Follow directions									
49. Follow oral command of "left"/"right"	I-A-22	93	(29)	100	(29)	80	(10)	100	(9)
50. Follow oral command dealing with direction on map	G-B-7a	55	(31)	21	(34)	37	(93)	49	(85)
	" b	55	"	53	"	44	"	56	"
	" c	71	"	76	"	39	"	51	"
	" a,b	32	"	18	"	22	"	36	"
51. Follow simple oral command	I-B-9	100	(52)	96	(55)	--	(0)	--	(0)
52. Follow simple written commands	G-A-12	58	(77)	44	(71)	28	(47)	39	(54)
Recognize colors									
53. Respond orally (complete sentence) to question on color	I-C-22	68	(25)	56	(25)	60	(10)	80	(10)
54. Identify color word corresponding to cue	G-C-7	75	(109)	82	(99)	56	(18)	55	(22)
55. Write complete sentence to written question on color	G-A-20	42	(12)	12	(17)	4	(157)	6	(139)
Interpret temporal cues on clocks and calendars									
56. Respond orally to question on time	I-A-16	68	(19)	74	(19)	80	(15)	86	(14)
57. Identify time corresponding to picture of clock	G-B-12	86	(22)	89	(19)	76	(123)	79	(101)
58. Write answer (complete sentence) to written question on time	G-C-20	13	(24)	15	(33)	4	(90)	7	(95)
59. Respond orally to oral question on date	I-A-17	33	(24)	17	(24)	13	(15)	21	(14)
60. Identify date cued by calendar and written representations	G-C-11	80	(35)	80	(59)	67	(46)	71	(49)
61. Write answer (complete sentence) to question on date	G-B-20	0	(8)	0	(7)	4	(112)	2	(115)
Identify, compare, reproduce beginning consonant sounds									

		Relevant Objective: % Passing				Not Relevant Objective: % Passing			
Objective	Item	Pre	N	Post	N	Pre	N	Post	N
66. Identify same/different beginning consonants	G-C-1a	72	(127)	56	(124)	--	(0)	--	(0)
	" b	60	"	53	"	--	"	--	"
	" a,b	49	"	36	"	--	"	--	"
67. Orally reproduce initial consonant	I-C-21	42	(45)	60	(43)	30	(10)	80	(10)
68. Identify from picture words with same beginning consonant	G-C-16	73	(127)	86	(124)	100	(8)	100	(7)
69. Identify picture of word beginning with different initial sound	G-C-12	59	(129)	70	(133)	--	(0)	--	(0)
70. Give another word beginning with same consonant	I-C-11	26	(35)	39	(33)	0	(10)	10	(10)
Identify, compare, reproduce final consonant sounds									
71. Identify same/different final consonant in pairs	G-A-9a	60	(63)	73	(73)	77	(31)	63	(40)
	" b	58	"	74	"	55	"	75	"
	" c	71	"	64	"	48	"	53	"
	" a,b	38	"	45	"	45	"	43	"
72. Orally reproduce final consonant	I-A-18	52	(29)	68	(28)	80	(5)	80	(5)
73. Identify words having same final consonant	G-C-14	15	(85)	12	(73)	31	(42)	27	(48)
74. Identify word with different final consonant	G-B-11	47	(58)	36	(53)	75	(73)	56	(55)
75. Give another word ending with same consonant	I-B-21	48	(33)	46	(35)	40	(15)	60	(15)
76. Substitute other final consonant to form new word	I-C-18	40	(10)	50	(10)	31	(35)	34	(35)
Identify, compare, reproduce medial consonants									
77. Identify same/different medial consonants	G-A-4a	94	(17)	55	(22)	59	(121)	50	(102)
	" b	35	"	23	"	40	"	37	"
	" c	71	"	68	"	57	"	68	"
	" a,b	29	"	5	"	23	"	16	"

Objective	Item	Relevant Objective: % Passing				Not Relevant Objective: % Passing			
		Pre	N	Post	N	Pre	N	Post	N
78. Orally reproduce medial consonant	I-A-15	25	(24)	26	(23)	0	(10)	20	(10)
79. Identify word with different medial consonant	G-B-18	33	(36)	16	(31)	25	(104)	27	(91)
80. Give another word with same medial consonant	I-A-21	36	(14)	62	(13)	48	(25)	52	(25)
Identify, compare, reproduce words and phonograms									
81. Identify words that rhyme	G-A-2a	71	(128)	70	(122)	--	(0)	--	(0)
	" b	66	"	77	"	--	"	--	"
	" a,b	53	"	61	"	--	"	--	"
82. Identify word that does not rhyme	I-A-8	69	(29)	93	(28)	40	(5)	80	(5)
83. Identify pairs that rhyme	G-B-6a	67	(81)	66	(64)	66	(64)	75	(55)
	" b	42	"	52	"	56	"	64	"
	" c	74	"	77	"	84	"	78	"
	" a,b	30	"	38	"	45	"	55	"
84. Select word that completes rhyming couplet	G-B-16	56	(34)	93	(29)	48	(106)	67	(93)
85. Name words with same rhyme ending	I-B-11	70	(23)	72	(25)	56	(25)	64	(25)
86. Orally reproduce phonogram of rhyming words	I-B-15	15	(13)	20	(15)	14	(35)	20	(35)
Recognize and use complete sentences									
87. Differentiate between phrases/complete sentences	G-A-10a	51	(57)	46	(52)	37	(67)	49	(73)
	" b	60	"	46	"	61	"	48	"
	" c	72	"	81	"	70	"	64	"
	" a,b	32	"	23	"	30	"	27	"
88. Construct sentences using past, present, future forms	I-A-23	67	(24)	83	(23)	33	(15)	67	(15)
Identify and form plurals									
89. Identify words in singular/plural	G-B-1a	39	(28)	78	(23)	50	(86)	68	(77)
	" b	21	"	70	"	47	"	60	"
	" c	43	"	52	"	55	"	44	"
	" a,b	7	"	57	"	22	"	47	"

Objective	Item	Relevant Objective: % Passing		Not Relevant Objective: % Passing	
		Pre N	Post N	Pre N	Post N
90. Give plural form of singular	I-C-13	26 (35)	18 (34)	13 (15)	27 (15)
91. Give singular form of plural	I-B-19	100 (18)	95 (20)	92 (25)	84 (25)
92. Describe objects using correct singular/ plural	I-C-20	60 (35)	69 (35)	73 (15)	53 (15)
93. Repeat sentence changing singular to plural and vice versa	I-A-19	26 (19)	26 (19)	20 (15)	14 (14)
Use correct verb forms					
94. Use correct verb forms in daily speech	I-B-16	87 (23)	96 (25)	87 (15)	80 (15)
95. Orally answer questions using correct person and tense	I-C-15	80 (10)	67 (9)	70 (30)	63 (30)
96. Complete/construct sentence using given verb form	I-A-10	76 (29)	79 (28)	60 (10)	90 (0)
Use compound words					
97. Identify two parts of compound word	I-C-12	70 (20)	90 (20)	52 (25)	48 (25)
98. Combine words to form compound words	G-C-9	27 (26)	17 (29)	18 (76)	43 (82)
99. Identify compound words	G-A-7a	49 (57)	40 (52)	43 (92)	38 (93)
	" b	56 "	79 "	62 "	65 "
	" c	70 "	85 "	60 "	68 "
	" a,b	33 "	38 "	27 "	28 "
Use of possessive forms of nouns and pronouns					
100. Identify possessive nouns/pronouns	G-B-3a	36 (36)	55 (31)	46 (104)	49 (31)
	" b	56 "	58 "	50 "	43 "
	" c	39 "	61 "	64 "	64 "
	" a,b	33 "	35 "	37 "	32 "
101. Construct sentences with given possessive nouns/pronouns	I-A-20	54 (24)	70 (23)	60 (15)	73 (15)
102. Repeat sentence substituting possessive	I-C-9	87 (15)	80 (15)	96 (25)	92 (25)
103. Orally answer questions using possessives	I-C-17	76 (25)	63 (24)	60 (25)	84 (25)
Identify body parts and functions					
104. Name body part on person, doll or picture	I-C-1	87 (45)	88 (42)	90 (10)	100 (10)

Objective	Item	Relevant Objective: % Passing				Not Relevant Objective: % Passing			
		Pre	N	Post	N	Pre	N	Post	N
105. Identify function of given part of body	G-A-3a	71	(99)	78	(100)	79	(70)	86	(56)
	" b	80	"	88	"	93	"	93	"
	" c	76	"	84	"	89	"	91	"
	" a,b	65	"	72	"	79	"	84	"
106. Identify part of body from description	G-A-8a	64	(142)	63	(126)	74	(27)	63	(30)
	" b	48	"	65	"	56	"	53	"
	" c	45	"	67	"	56	"	60	"
	" a,b	32	"	44	"	41	"	33	"
107. Identify missing part of body in illustration	G-B-8a	51	(90)	71	(79)	89	(55)	88	(41)
	" b	76	"	86	"	89	"	78	"
	" c	51	"	71	"	78	"	80	"
	" a,b	49	"	66	"	84	"	76	"
Recognize manuscript letters									
110. Identify letter name of letters in manuscript	I-B-12	79	(43)	78	(45)	80	(10)	90	(10)
111. Find letter in manuscript on alphabet chart	G-C-17	91	(127)	92	(124)	80	(10)	79	(19)
112. Identify corresponding lower/upper-case form	G-B-17	64	(106)	68	(105)	75	(48)	79	(29)
113. Identify identical/different letters	G-C-15	91	(127)	91	(121)	90	(10)	100	(19)
114. Identify manuscript letter	G-B-14	74	(106)	84	(105)	94	(48)	93	(29)
115. Identify words in manuscript that begin with a designated letter	G-C-10	81	(104)	89	(120)	80	(41)	87	(30)
116. Identify whether letters are in upper/lower case	G-A-16a	80	(147)	84	(123)	86	(22)	91	(33)
	" b	71	"	75	"	86	"	91	"
	" a,b	63	"	70	"	86	"	85	"
117. Name letters in words written in manuscript	I-C-14	83	(35)	86	(35)	70	(10)	50	(10)
Recognize alphabetical order									

Objective	Item	Relevant Objective: % Passing Pre N	Relevant Objective: % Passing Post N	Not Relevant Objective: % Passing Pre N	Not Relevant Objective: % Passing Post N
Recognize alphabetical order					
118. Arrange letters in alphabetical order	I-B-18	44 (43)	44 (45)	60 (10)	60 (10)
119. Identify letters that precede/follow a given letter	G-B-19	53 (81)	63 (79)	78 (73)	84 (55)
120. Arrange words in alphabetical order	I-B-23	46 (13)	60 (15)	50 (30)	30 (30)
Identify vowels and consonants					
121. Identify vowels in alphabet or words	G-C-13	58 (137)	79 (132)	-- (0)	-- (0)
122. Identify consonants in alphabet or words	G-C-19	39 (127)	45 (121)	-- (0)	-- (0)
123. Identify words beginning with same consonant sounds	G-C-18	70 (137)	72 (140)	-- (0)	-- (0)
124. Identify object beginning with same consonant sound as given word	G-C-6	60 (137)	77 (140)	38 (8)	80 (10)
125. Pronounce final single consonant correctly	I-B-14	75 (28)	87 (30)	60 (10)	40 (10)
126. Identify initial consonant digraph in given word	G-B-15	88 (8)	71 (7)	61 (124)	84 (107)
127. Identify object that ends with given consonant	G-C-8	29 (96)	48 (99)	-- (0)	-- (0)
128. Identify medial single consonant of words	G-A-19	76 (17)	86 (22)	41 (106)	37 (92)
129. Pronounce initial consonant digraph	I-C-19	67 (15)	53 (15)	36 (25)	40 (25)
130. Pronounce initial consonant blend	I-A-6	59 (29)	57 (28)	50 (10)	60 (10)
131. Identify words beginning with given written consonant blend	G-A-17	60 (97)	58 (95)	41 (27)	47 (30)
132. Pronounce short vowel of given word	I-C-16	60 (25)	75 (24)	70 (20)	45 (20)
133. Identify written words having same short vowel sounds	G-A-15	47 (77)	48 (63)	23 (47)	22 (54)
134. Identify written words having same long vowel sound as given word	G-B-13	40 (30)	52 (27)	28 (124)	33 (107)
135. Identify written words having same long vowel sound	G-B-9	50 (30)	63 (27)	48 (124)	55 (107)

Table C-2: Percent of Students at Four Age Levels Passing Items On Pre- and Post-tests of Classroom Objectives

		6 Year Olds % Passing		7 Year Olds % Passing		8 Year Olds % Passing		9 Year Olds % Passing	
Objective	Item*	Pre-Test (N)	Post-Test (N)	Pre-Test (N)	Post-Test (N)	Pre-Test (N)	Post-Test (N)	Pre-Test (N)	Post-Test (N)
1	I-B-1	62 (13)	78 (18)	53 (19)	82 (17)	92 (13)	85 (13)	88 (8)	100 (7)
2	I-B-2	77 "	72 "	63 "	65 "	77 "	77 "	100 "	86 "
3	I-B-3	54 (13)	72 (18)	74 (19)	77 (17)	35 (13)	62 (13)	88 (8)	86 (7)
4	I-C-23	78 (9)	89 (9)	73 (11)	88 (8)	86 (21)	86 (21)	86 (14)	100 (15)
5	I-B-4	31 (13)	39 (18)	42 (19)	65 (17)	38 (13)	23 (13)	50 (8)	71 (7)
6	I-B-5	77 "	61 "	89 "	65 "	69 "	77 "	100 "	86 "
7	I-B-6	31 (13)	44 (18)	32 (19)	24 (17)	46 (13)	69 (13)	25 (8)	71 (7)
8	I-A-3	25 (4)	100 (4)	86 (14)	81 (16)	85 "	100 (12)	100 "	83 (6)
9	I-B-7	67 (13)	44 (18)	46 (19)	65 (17)	73 "	85 (13)	50 "	86 (7)
10	I-C-10	22 (9)	44 (9)	18 (11)	75 (8)	52 (21)	43 (21)	29 (14)	33 (15)
11	I-A-2	50 (4)	75 (4)	71 (14)	75 (16)	23 (13)	100 (12)	63 (8)	83 (6)
12	I-A-4	75 "	75 "	57 "	100 "	69 "	83 "	75 "	83 "
13	G-C-2a	53 (15)	45 (29)	55 (60)	45 (60)	74 (54)	70 (46)	81 (16)	67 (15)
	" b	53 "	55 "	55 "	62 "	65 "	70 "	88 "	73 "

*The percentages for items designated as "a,b" are based on the number of students passing both items "a" and "b".

		6 Year Olds % Passing		7 Year Olds % Passing		8 Year Olds % Passing		9 Year Olds % Passing	
Objective	Item*	Pre-Test (N)	Post-Test (N)	Pre-Test (N)	Post-Test (N)	Pre-Test (N)	Post-Test (N)	Pre-Test (N)	Post-Test (N)
13	G-C-2c	67 (15)	41 (29)	58 (60)	62 (60)	78 (54)	72 (46)	75 (16)	73 (15)
	" a,b	27 "	31 "	33 "	33 "	57 "	57 "	81 "	60 "
14	I-A-5	0 (4)	50 (4)	43 (14)	75 (16)	92 (13)	75 (12)	63 (8)	83 (6)
15	I-C-5	11 (9)	22 (9)	18 (11)	13 (8)	10 (21)	38 (21)	50 (14)	47 (15)
16	G-B-4a	62 (23)	67 (27)	69 (6)	64 (14)	76 (31)	74 (43)	74 (50)	78 (50)
	" b	18 "	52 "	50 "	57 "	72 "	79 "	72 "	86 "
	" a,b	18 "	37 "	44 "	43 "	59 "	74 "	62 "	74 "
17	I-B-8	100 (13)	83 (18)	100 (19)	100 (17)	100 (13)	100 (13)	100 (8)	100 (7)
18	I-C-6	0 (9)	22 (9)	18 (11)	50 (8)	43 (21)	38 (21)	50 (14)	60 (15)
19	G-B-2a	26 (23)	44 (27)	63 (6)	57 (14)	72 (31)	65 (43)	84 (50)	88 (50)
	" b	50 "	41 "	56 "	79 "	61 "	65 "	84 "	78 "
	" c	18 "	44 "	56 "	64 "	65 "	74 "	76 "	86 "
	" a,b	24 "	11 "	56 "	43 "	46 "	49 "	74 "	72 "
20	I-B-17	23 (13)	33 (18)	47 (19)	53 (17)	54 (13)	46 (13)	75 (8)	86 (7)
21	I-A-11	0 (4)	25 (4)	36 (14)	50 (16)	54 "	50 (12)	50 "	50 (6)
22	I-A-13	0 (4)	0 (4)	7 (14)	38 (16)	31 (13)	41 (12)	38 (8)	33 (6)
23	G-A-5a	63 (38)	48 (40)	49 (78)	67 (66)	56 (41)	65 (34)	83 (12)	75 (16)
	" b	39 "	33 "	47 "	62 "	56 "	53 "	75 "	69 "
	" a,b	29 "	20 "	28 "	42 "	37 "	38 "	75 "	63 "
24	G-A-18	74 (38)	63 (40)	81 (78)	82 (66)	78 (41)	82 (34)	100 (12)	100 (16)
25	I-B-20	31 (13)	28 (18)	42 (19)	82 (17)	69 (13)	92 (13)	88 (8)	100 (7)

Objec-tive	Item*	6 Year Olds % Passing Pre-Test	(N)	Post-Test	(N)	7 Year Olds % Passing Pre-Test	(N)	Post-Test	(N)	8 Year Olds % Passing Pre-Test	(N)	Post-Test	(N)	9 Year Olds % Passing Pre-Test	(N)	Post-Test	(N)
26	I-A-7	100	(4)	100	(4)	86	(14)	94	(16)	92	(13)	92	(12)	100	(8)	100	(6)
27	I-C-3	89	(9)	100	(9)	91	(11)	100	(8)	100	(21)	100	(21)	93	(14)	100	(15)
28	I-A-1	100	(4)	100	(4)	100	(14)	100	(16)	100	(13)	92	(12)	100	(8)	100	(6)
29	I-C-4	78	(9)	56	(9)	91	(11)	100	(8)	100	(21)	90	(21)	100	(14)	100	(15)
30	G-B-10	44	(23)	67	(27)	75	(6)	79	(14)	83	(31)	93	(43)	93	(50)	94	(50)
31	I-C-7	78	(9)	78	(9)	91	(11)	100	(8)	86	(21)	95	(21)	93	(14)	100	(15)
32	G-A-1a	66	(38)	30	(40)	62	(78)	56	(66)	54	(41)	53	(34)	92	(12)	69	(16)
	" b	39	"	48	"	42	"	68	"	34	"	59	"	67	"	69	"
	" c	47	"	43	"	63	"	67	"	68	"	79	"	83	"	83	"
	" a,b	24	"	20	"	32	"	52	"	24	"	41	"	58	"	56	"
33	G-A-13	42	"	38	"	63	"	74	"	78	"	82	"	83	"	94	"
34	I-A-14	75	(4)	100	(4)	86	(14)	100	(16)	85	(13)	100	(12)	100	(8)	100	(6)
35	G-A-14	61	(38)	30	(40)	67	(78)	43	(66)	73	(41)	81	(34)	83	(12)	94	(16)
36	I-B-13	92	(13)	67	(18)	95	(19)	100	(17)	100	(13)	100	(13)	100	(8)	100	(7)
37	G-C-4a	60	(15)	62	(29)	77	(60)	77	(60)	78	(54)	83	(46)	88	(16)	80	(15)
	" b	73	"	69	"	82	"	97	"	93	"	89	"	88	"	87	"
	" a,b	53	"	59	"	67	"	75	"	78	"	78	"	75	"	67	"
38	G-C-5a	80	"	76	"	87	"	93	"	96	"	100	"	100	"	100	"
	" b	67	"	72	"	90	"	100	"	93	"	100	"	100	"	100	"
	" c	67	"	83	"	88	"	97	"	94	"	98	"	94	"	100	"
	" a,b	53	"	69	"	82	"	93	"	93	"	100	"	100	"	100	"
39	G-A-11a	58	(38)	74	(40)	82	(78)	90	(66)	80	(41)	100	(34)	92	(12)	100	(16)
	" b	58	"	55	"	76	"	80	"	83	"	88	"	92	"	88	"
	" c	66	"	58	"	74	"	82	"	78	"	88	"	100	"	94	"
	" a,b	39	"	43	"	65	"	68	"	68	"	82	"	83	"	75	"
40	G-C-3a	80	(15)	86	(29)	88	(60)	93	(60)	91	(54)	98	(46)	88	(16)	93	(15)

Objective	Item*	6 Year Olds % Passing		7 Year Olds % Passing		8 Year Olds % Passing		9 Year Olds % Passing	
		Pre-Test (N)	Post-Test (N)	Pre-Test (N)	Post-Test (N)	Pre-Test (N)	Post-Test (N)	Pre-Test (N)	Post-Test (N)
40	G-C-3b	93 (15)	66 (29)	87 (60)	88 (60)	94 (54)	98 (46)	94 (16)	93 (15)
	" a,b	80 "	66 "	80 "	85 "	89 "	96 "	88 "	93 "
41	G-B-5a	24 (23)	41 (27)	38 (6)	86 (14)	70 (31)	72 (43)	74 (50)	74 (50)
	" b	26 "	60 "	75 "	86 "	78 "	86 "	91 "	98 "
	" c	56 "	44 "	88 "	79 "	83 "	84 "	84 "	92 "
	" a,b	15 "	26 "	38 "	86 "	63 "	63 "	67 "	72 "
42	I-A-9	75 (4)	100 (4)	57 (14)	88 (16)	77 (13)	92 (12)	100 (8)	83 (6)
43	I-A-12	75 (4)	100 (4)	93 (14)	100 (16)	100 (13)	100 (12)	100 (8)	100 (6)
44	I-B-22	62 (13)	61 (13)	89 (19)	88 (17)	85 "	85 (13)	75 "	100 (7)
45	I-C-2	89 (9)	78 (9)	91 (11)	100 (8)	100 (21)	100 (21)	100 (14)	93 (15)
46	I-B-10	23 (13)	33 (18)	47 (19)	71 (17)	62 (13)	77 (13)	100 (8)	100 (7)
47	I-C-8	89 (9)	67 (9)	91 (11)	100 (8)	95 (21)	100 (21)	100 (14)	100 (15)
48	G-A-6a	47 (38)	53 (40)	69 (78)	76 (66)	78 (41)	82 (34)	92 (12)	88 (16)
	" b	68 "	65 "	68 "	83 "	76 "	82 "	92 "	81 "
	" c	53 "	53 "	77 "	77 "	93 "	85 "	92 "	88 "
	" a,b	32 "	45 "	59 "	73 "	71 "	76 "	83 "	81 "
49	I-A-22	100 (4)	100 (4)	86 (14)	100 (16)	85 (13)	100 (12)	100 (8)	100 (6)
50	G-B-7a	24 (23)	33 (27)	44 (6)	14 (14)	43 (31)	42 (43)	41 (50)	50 (50)
	" b	68 "	44 "	56 "	50 "	50 "	56 "	52 "	64 "
	" c	26 "	33 "	31 "	43 "	54 "	56 "	66 "	78 "
	" a,b	21 "	11 "	38 "	7 "	17 "	35 "	26 "	42 "
51	I-B-9	100 (13)	89 (18)	100 (19)	100 (17)	100 (13)	100 (13)	100 (8)	100 (7)
52	G-A-12	11 (38)	20 (40)	35 (78)	38 (66)	61 (41)	47 (34)	75 (12)	75 (16)
53	I-C-22	56 (9)	44 (9)	64 (11)	75 (8)	81 (21)	57 (21)	86 (14)	87 (15)

Objective	Item*	6 Year Olds % Passing Pre-Test (N)	6 Year Olds % Passing Post-Test (N)	7 Year Olds % Passing Pre-Test (N)	7 Year Olds % Passing Post-Test (N)	8 Year Olds % Passing Pre-Test (N)	8 Year Olds % Passing Post-Test (N)	9 Year Olds % Passing Pre-Test (N)	9 Year Olds % Passing Post-Test (N)
54	G-C-7	27 (15)	59 (29)	67 (60)	70 (60)	80 (54)	87 (46)	88 (16)	73 (15)
55	G-A-20	0 (38)	0 (40)	4 (78)	8 (66)	7 (41)	6 (34)	42 (12)	25 (16)
56	I-A-16	25 (4)	50 (4)	50 (14)	63 (16)	92 (13)	92 (12)	75 (8)	100 (6)
57	G-B-12	47 (23)	48 (27)	69 (6)	93 (14)	78 (31)	86 (43)	97 (50)	96 (50)
58	G-C-20	0 (15)	3 (29)	2 (60)	5 (60)	6 (54)	26 (46)	25 (16)	20 (15)
59	I-A-17	0 (4)	0 (4)	0 (14)	0 (16)	54 (13)	33 (12)	38 (8)	50 (6)
60	G-C-11	60 (15)	62 (29)	60 (60)	72 (60)	72 (54)	87 (46)	88 (16)	87 (15)
61	G-B-20	0 (23)	0 (27)	0 (6)	0 (14)	4 (31)	0 (43)	4 (50)	4 (50)
66	G-C-1a	53 (15)	41 (29)	68 (60)	55 (60)	70 (54)	61 (46)	81 (16)	40 (15)
	" b	47 "	41 "	52 "	50 "	69 "	57 "	56 "	60 "
	" a,b	33 "	31 "	39 "	33 "	56 "	39 "	50 "	20 "
67	I-C-21	0 (9)	44 (9)	45 (11)	63 (8)	38 (21)	57 (21)	64 (14)	67 (15)
68	G-C-16	47 (15)	55 (29)	75 (60)	88 (60)	72 (54)	93 (46)	88 (16)	100 "
69	G-C-12	40 "	62 "	53 "	60 "	72 "	83 "	75 "	80 "
70	I-C-11	0 (9)	22 (9)	18 (11)	75 (8)	48 (21)	57 (21)	29 (14)	13 (15)
71	G-A-9a	42 (38)	50 (40)	62 (78)	79 (66)	71 (41)	82 (34)	58 (12)	69 (16)
	" b	55 "	55 "	54 "	62 "	66 "	71 "	50 "	63 "
	" c	53 "	45 "	54 "	68 "	63 "	71 "	83 "	69 "
	" a,b	24 "	23 "	40 "	50 "	49 "	56 "	33 "	56 "
72	I-A-18	0 (4)	25 (4)	50 (14)	50 (16)	62 (13)	92 (12)	50 (8)	67 (6)
73	G-C-14	7 (15)	24 (29)	13 (60)	12 (60)	22 (54)	20 (46)	38 (16)	20 (15)
74	G-B-11	24 (23)	33 (27)	69 (6)	21 (14)	63 (31)	42 (43)	84 (50)	62 (50)
75	I-B-21	31 (13)	33 (13)	58 (19)	71 (17)	69 (13)	69 (13)	75 (8)	100 (7)
76	I-C-18	11 (9)	0 (9)	0 (11)	38 (8)	38 (21)	48 (21)	50 (14)	40 (15)

Objective	Item*	6 Year Olds % Passing		7 Year Olds % Passing		8 Year Olds % Passing		9 Year Olds % Passing	
		Pre-Test (N)	Post-Test (N)	Pre-Test (N)	Post-Test (N)	Pre-Test (N)	Post-Test (N)	Pre-Test (N)	Post-Test (N)
77	G-A-4a	45 (38)	45 (40)	58 (78)	41 (66)	78 (41)	68 (34)	83 (12)	56 (16)
	" b	26 "	33 "	37 "	39 "	44 "	18 "	33 "	31 "
	" c	66 "	58 "	63 "	73 "	54 "	65 "	75 "	81 "
	" a,b	16 "	15 "	18 "	12 "	32 "	9 "	25 "	13 "
78	I-A-15	0 (4)	0 (4)	14 (14)	13 (16)	31 (13)	33 (12)	25 (8)	33 (6)
79	G-B-18	41 (23)	22 (27)	13 (6)	43 (14)	28 (31)	26 (43)	26 (50)	18 (50)
80	I-A-21	0 (4)	0 (4)	21 (14)	69 (16)	54 (13)	59 (12)	88 (8)	50 (6)
81	G-A-2a	37 (38)	43 (40)	71 (78)	61 (66)	71 (41)	79 (34)	75 (12)	88 (16)
	" b	37 "	63 "	59 "	67 "	73 "	95 "	83 "	100 "
	" a,b	16 "	35 "	51 "	44 "	56 "	74 "	67 "	88 "
82	I-A-8	0 (4)	100 (4)	71 (14)	88 (16)	62 (13)	92 (12)	75 (8)	100 (6)
83	G-B-6a	59 (23)	52 (27)	75 (6)	71 (14)	70 (31)	77 (43)	64 (50)	80 (50)
	" b	24 "	44 "	56 "	36 "	61 "	60 "	55 "	66 "
	" c	62 "	56 "	88 "	93 "	78 "	79 "	86 "	90 "
	" a,b	15 "	22 "	50 "	21 "	43 "	58 "	43 "	56 "
84	G-B-16	12 "	56 "	44 "	43 "	61 "	79 "	67 "	88 "
85	I-B-11	8 (13)	44 (18)	63 (19)	76 (17)	92 (13)	62 (13)	63 (8)	88 (7)
86	I-B-15	0 "	6 "	5 "	12 "	15 "	15 "	50 "	71 "
87	G-A-10a	37 (38)	45 (40)	44 (78)	47 (66)	46 (41)	38 (34)	42 (12)	63 (16)
	" b	50 "	63 "	60 "	56 "	51 "	50 "	42 "	25 "
	" c	47 "	65 "	71 "	67 "	80 "	76 "	75 "	81 "
	" a,b	18 "	30 "	32 "	30 "	27 "	24 "	25 "	19 "
88	I-A-23	0 (4)	50 (4)	43 (14)	63 (16)	69 (13)	92 (12)	75 (8)	100 (6)
89	G-B-1a	32 (23)	67 (27)	63 (6)	43 (14)	48 (31)	77 (43)	43 (50)	88 (50)
	" b	26 "	63 "	56 "	29 "	35 "	58 "	57 "	82 "
	" c	53 "	44 "	44 "	64 "	52 "	37 "	62 "	62 "
	" a,b	3 "	44 "	44 "	21 "	20 "	44 "	21 "	76 "

Objective	Item*	6 Year Olds % Passing				7 Year Olds % Passing				8 Year Olds % Passing				9 Year Olds % Passing			
		Pre-Test	(N)	Post-Test	(N)	Pre-Test	(N)	Post-Test	(N)	Pre-Test	(N)	Post-Test	(N)	Pre-Test	(N)	Post-Test	(N)
90	I-C-13	33	(9)	0	(9)	9	(11)	25	(8)	19	(21)	14	(21)	43	(14)	47	(15)
91	I-B-19	100	(13)	72	(18)	95	(19)	94	(17)	100	(13)	85	(13)	88	(8)	86	(7)
92	I-C-20	56	(9)	22	(9)	55	(11)	63	(8)	57	(21)	67	(21)	93	(14)	80	(15)
93	I-A-19	0	(4)	0	(4)	14	(14)	13	(16)	31	(13)	42	(12)	25	(8)	33	(6)
94	I-B-16	54	(13)	72	(18)	100	(19)	88	(17)	85	(13)	92	(13)	88	(8)	100	(7)
95	I-C-15	56	(9)	22	(9)	64	(11)	75	(8)	76	(21)	71	(21)	86	(14)	93	(15)
96	I-A-10	25	(4)	75	(4)	54	(14)	81	(16)	86	(13)	83	(12)	88	(8)	83	(6)
97	I-C-12	33	(9)	22	(9)	55	(11)	38	(8)	67	(21)	67	(21)	79	(14)	87	(15)
98	G-C-9	13	(15)	21	(29)	13	(60)	28	(60)	20	(54)	43	(46)	31	(16)	27	(15)
99	G-A-7a	37	(38)	23	(40)	45	(78)	41	(66)	51	(41)	50	(34)	58	(12)	50	(16)
	" b	68	"	63	"	53	"	58	"	46	"	91	"	75	"	81	"
	" c	58	"	60	"	62	"	73	"	66	"	85	"	92	"	94	"
	" a,b	26	"	13	"	28	"	32	"	27	"	50	"	50	"	50	"
100	G-B-3a	15	(23)	56	(27)	38	(6)	43	(14)	57	(31)	44	(43)	52	(50)	54	(50)
	" b	44	"	41	"	50	"	36	"	54	"	44	"	50	"	50	"
	" c	18	"	37	"	56	"	50	"	67	"	72	"	78	"	80	"
	" a,b	12	"	22	"	32	"	14	"	43	"	28	"	43	"	46	"
101	I-A-20	25	(4)	75	(4)	43	(14)	69	(16)	69	(13)	67	(12)	75	(8)	83	(6)
102	I-C-9	78	(9)	56	(9)	91	(11)	100	(8)	90	(21)	90	(21)	100	(14)	93	(15)
103	I-C-17	67	"	44	"	45	"	75	"	76	"	67	"	71	"	93	"
104	I-C-1	67	(9)	44	(9)	91	(11)	88	(8)	86	(21)	100	(21)	100	(14)	100	(15)
105	G-A-3a	53	(38)	60	(40)	78	(78)	86	(66)	80	(41)	88	(34)	92	(12)	94	(16)
	" b	66	"	78	"	91	"	92	"	88	"	94	"	100	"	100	"

Objec-tive	Item*	6 Year Olds % Passing Pre-Test (N)	Post-Test (N)	7 Year Olds % Passing Pre-Test (N)	Post-Test (N)	8 Year Olds % Passing Pre-Test (N)	Post-Test (N)	9 Year Olds % Passing Pre-Test (N)	Post Test (N)
105	G-A-3c	61 (38)	68 (40)	87 (78)	94 (66)	85 (41)	88 (34)	92 (12)	100 (16)
	" a,b	45 "	53 "	77 "	82 "	76 "	85 "	92 "	94 "
106	G-A-8a	50 "	38 "	69 "	71 "	71 "	71 "	75 "	75 "
	" b	47 "	53 "	44 "	65 "	51 "	62 "	83 "	81 "
	" c	55 "	60 "	44 "	68 "	37 "	62 "	75 "	75 "
	" a,b	32 "	23 "	31 "	48 "	29 "	44 "	57 "	63 "
107	G-B-8a	26 (23)	48 (27)	53 (6)	71 (14)	78 (31)	72 (43)	79 (50)	90 (50)
	" b	59 "	67 "	88 "	86 "	80 "	77 "	88 "	96 "
	" c	26 "	48 "	50 "	71 "	72 "	70 "	78 "	90 "
	" a,b	24 "	41 "	63 "	64 "	72 "	58 "	74 "	90 "
110	1-B-12	46 (13)	39 (18)	84 (19)	100 (17)	92 (13)	100 (13)	100 (8)	100 (7)
111	G-C-17	67 (15)	69 (29)	93 (60)	92 (60)	91 (54)	100 (46)	100 (16)	100 (15)
112	G-B-17	18 (23)	26 (27)	81 (6)	50 (14)	80 (31)	79 (43)	83 (50)	92 (50)
113	G-C-15	53 (15)	79 (29)	90 (60)	93 (60)	96 (54)	98 (46)	94 (16)	100 (15)
114	G-B-14	30 (23)	52 (27)	88 (6)	71 (14)	93 (31)	98 (43)	97 (50)	98 (50)
115	G-C-10	47 (15)	59 (29)	78 (60)	92 (60)	89 (54)	100 (46)	94 (16)	100 (15)
116	G-A-16a	63 (38)	73 (40)	82 (78)	86 (66)	90 (41)	91 (34)	100 (12)	100 (16)
	" b	39 "	38 "	77 "	91 "	90 "	94 "	100 "	94 "
	" a,b	26 "	35 "	69 "	83 "	85 "	88 "	100 "	94 "
117	I-C-14	22 (9)	22 (9)	73 (11)	75 (8)	95 (2)	90 (21)	93 (14)	93 (15)
118	I-B-18	15 (13)	28 (18)	47 (19)	59 (17)	69 (13)	54 (13)	63 (8)	57 (7)
119	G-B-19	9 (23)	30 (27)	56 (6)	43 (14)	76 (31)	31 (43)	91 (50)	94 (50)
120	I-B-23	23 (13)	6 (18)	42 (19)	41 (17)	38 (13)	38 (13)	50 (8)	86 (7)

		6 Year Olds % Passing		7 Year Olds % Passing		8 Year Olds % Passing		9 Year Olds % Passing	
Objective	Item	Pre-Test (N)	Post-Test (N)	Pre-Test (N)	Post-Test (N)	Pre-Test (N)	Post-Test (N)	Pre-Test (N)	Post-Test (N)
121	G-C-13	27 (15)	45 (29)	50 (60)	72 (60)	67 (54)	93 (46)	75 (16)	80 (15)
122	G-C-19	20 "	34 "	25 "	32 "	46 "	65 "	56 "	57 "
123	G-C-18	33 "	41 "	72 "	68 "	70 "	85 "	94 "	80 "
124	G-C-6	13 "	52 "	55 "	73 "	70 "	91 "	75 "	100 "
125	I-B-14	31 (13)	28 (18)	68 (19)	71 (17)	77 (13)	92 (13)	88 (8)	100 (7)
126	G-B-15	26 (23)	59 (27)	38 (6)	79 (14)	85 (31)	88 (43)	84 (50)	98 (50)
127	G-C-8	27 (15)	66 (29)	28 (60)	52 (60)	37 (54)	59 (46)	50 (16)	40 (15)
128	G-A-19	24 (38)	13 (40)	40 (78)	62 (66)	59 (41)	65 (34)	75 (12)	88 (16)
129	I-C-19	0 (9)	11 (9)	18 (11)	25 (8)	48 (21)	52 (21)	86 (14)	67 (15)
130	I-A-6	25 (4)	50 (4)	43 (14)	44 (16)	69 (13)	67 (12)	75 (8)	83 (6)
131	G-A-17	26 (38)	15 (40)	46 (78)	59 (66)	66 (41)	59 (34)	92 (12)	81 (16)
132	I-C-16	33 (9)	0 (9)	55 (11)	63 (8)	81 (21)	81 (21)	93 (14)	100 (15)
133	G-A-15	18 (38)	5 (40)	28 (78)	39 (66)	46 (41)	38 (34)	58 (12)	69 (16)
134	G-B-13	6 (23)	15 (27)	6 (6)	7 (14)	35 (31)	37 (43)	48 (50)	56 (50)
135	G-B-9	6 "	30 "	25 "	36 "	54 "	56 "	74 "	78 "

Table C-3: Percent of Male and Female Students Passing Items on Pre- and Post-Tests of Classroom Objectives

		Males % Passing				Females % Passing				Total % Passing	
Objectives	Item*	Pre-Test	(N)	Post-Test	(N)	Pre-Test	(N)	Post-Test	(N)	Pre-Test	Post-Test
1	I-B-1	80	(25)	89	(18)	61	(28)	81	(37)	70	84
2	I-B-2	76	(25)	72	(18)	75	(28)	73	(37)	75	73
3	I-B-3	76	(25)	83	(18)	71	(28)	68	(37)	74	73
4	I-C-23	86	(22)	91	(23)	79	(33)	90	(30)	89	91
5	I-B-4	40	(25)	39	(18)	39	(28)	51	(37)	40	47
6	I-B-5	80	(25)	67	(18)	86	(28)	70	(37)	83	69
7	I-B-6	36	(25)	50	(18)	32	(28)	46	(37)	34	47
8	I-A-3	85	(20)	89	(18)	79	(19)	90	(20)	82	89
9	I-B-7	65	(20)	67	(18)	46	(13)	65	(37)	58	65
10	I-C-10	36	(22)	57	(23)	33	(33)	37	(30)	35	45
11	I-A-2	60	(20)	89	(18)	42	(19)	80	(20)	51	84
12	I-A-4	65	(20)	89	(18)	68	(19)	90	(20)	67	89
13	G-C-2a	55	(69)	55	(64)	74	(76)	55	(86)	65	55
	" b	59	"	66	"	64	"	63	"	62	64
	" c	64	"	70	"	72	"	56	"	69	62
	" a,b	39	"	42	"	54	"	43	"	47	43
14	I-A-5	55	(20)	78	(18)	63	(19)	70	(20)	59	73
15	I-C-5	32	(22)	30	(23)	15	(33)	37	(30)	22	34
16	G-B-4a	68	(57)	70	(60)	73	(97)	76	(74)	71	73
	" b	54	"	67	"	60	"	80	"	58	74
	" a,b	42	"	53	"	54	"	72	"	49	63
17	I-B-8	100	(25)	100	(18)	100	(28)	92	(37)	100	95
18	I-C-6	45	(22)	48	(23)	24	(33)	40	(30)	33	43
19	G-B-2a	60	(57)	70	(60)	69	(97)	68	(74)	66	69
	" b	68	"	58	"	66	"	73	"	67	66
	" c	54	"	70	"	60	"	73	"	58	72
	" a,b	49	"	43	"	55	"	54	"	53	49
20	I-B-17	48	(25)	61	(18)	6	(28)	43	(37)	47	49
21	I-A-11	35	(20)	50	(18)	47	(19)	45	(20)	41	47

*The percentages for items designated as "a,b" are based on the number of students passing both items "a" and "b."

		Males % Passing				Females % Passing				Total % Passing	
Objective	Item	Pre-Test	(N)	Post-Test	(N)	Pre-Test	(N)	Post-Test	(N)	Pre-Test	Post-Test
22	I-A-13	15	(20)	28	(18)	26	(19)	40	(20)	21	34
23	G-A-5a	54	(85)	65	(77)	58	(84)	59	(79)	56	62
	" b	47	"	51	"	52	"	56	"	50	53
	" a,b	29	"	34	"	38	"	42	"	34	38
24	G-A-18	81	(85)	82	(77)	79	(84)	76	(79)	80	79
25	I-B-20	64	(25)	56	(18)	43	(28)	76	(37)	53	69
26	I-A-7	95	(20)	94	(18)	89	(19)	95	(20)	92	95
27	I-C-3	91	(22)	100	(23)	97	(33)	100	(30)	95	100
28	I-A-1	100	(20)	94	(18)	100	(19)	100	(20)	100	97
29	I-C-4	95	(22)	91	(23)	94	(33)	87	(30)	95	89
30	G-B-10	74	(57)	83	(60)	79	(97)	89	(74)	77	87
31	I-C-7	91	(22)	96	(23)	85	(33)	93	(30)	87	94
32	G-A-1a	65	(85)	51	(77)	61	(84)	49	(79)	63	50
	" b	42	"	69	"	40	"	53	"	41	61
	" c	60	"	66	"	64	"	65	"	62	65
	" a,b	32	"	44	"	29	"	39	"	30	42
33	G-A-13	61	(85)	68	(77)	65	(84)	70	(79)	63	69
34	I-A-14	95	(20)	100	(18)	79	(19)	100	(20)	87	100
35	G-A-14	84	(85)	71	(77)	79	(84)	82	(79)	68	77
36	I-B-13	92	(25)	89	(18)	100	(28)	89	(37)	96	89
37	G-C-4a	71	(69)	77	(64)	82	(76)	76	(86)	77	76
	" b	81	"	89	"	89	"	87	"	86	88
	" a,b	65	"	72	"	75	"	72	"	70	72
38	G-C-5a	88	(69)	95	(64)	93	(76)	91	(86)	91	93
	" b	88	"	98	"	91	"	92	"	90	95
	" c	86	"	92	"	92	"	97	"	89	95
	" a,b	83	"	95	"	87	"	88	"	85	91
39	G-A-11a	79	(85)	88	(77)	75	(84)	77	(79)	77	83
	" b	76	"	84	"	73	"	68	"	75	76
	" c	76	"	82	"	74	"	75	"	75	78
	" a,b	65	"	78	"	58	"	53	"	62	65
40	G-C-3a	86	(69)	91	(64)	91	(76)	95	(86)	88	93
	" b	88	"	86	"	93	"	88	"	91	87
	" a,b	80	"	83	"	88	"	87	"	84	85
41	G-B-5a	56	(57)	65	(60)	59	(97)	70	(74)	58	68
	" b	65	"	82	"	75	"	88	"	71	85
	" c	74	"	77	"	80	"	80	"	78	78
	" a,b	51	"	58	"	52	"	64	"	51	61
42	I-A-9	75	(20)	89	(18)	74	(19)	90	(20)	74	89
43	I-A-12	95	(20)	100	(18)	95	(19)	100	(20)	95	100
44	I-B-22	76	(25)	78	(18)	82	(28)	81	(37)	79	80

		Males % Passing				Females % Passing				Total % Passing	
Objective	Item	Pre-Test	(N)	Post-Test	(N)	Pre-Test	(N)	Post-Test	(N)	Pre-Test	Post-Test
45	I-C-2	95	(22)	91	(23)	97	(33)	97	(30)	96	94
46	I-B-10	56	(25)	67	(18)	50	(28)	62	(37)	53	64
47	I-C-8	95	(22)	96	(23)	94	(33)	93	(30)	95	94
48	G-A-6a	66	(85)	74	(77	70	(84)	71	(79)	68	72
	" b	69	"	82	"	74	"	75	"	72	78
	" c	80	"	78	"	73	"	70	"	76	74
	" a,b	54	"	69	"	61	"	66	"	57	67
49	I-A-22	85	(20)	100	(18)	95	(19)	100	(20)	90	100
50	G-B-7a	25	(57)	38	(60)	46	(97)	42	(74)	38	40
	" b	63	"	53	"	51	"	58	"	55	56
	" c	49	"	52	"	51	"	64	"	50	58
	" a,b	14	"	27	"	29	"	32	"	23	30
51	I-B-9	100	(25)	10	(18)	100	(28)	95	(37)	100	96
52	G-A-12	39	(85)	35	(77)	38	(84)	43	(79)	38	39
53	I-C-22	77	(22)	78	(23,	73	(33)	57	(30)	75	66
54	G-C-7	62	(69)	72	(64)	76	(76)	74	(86)	70	73
55	G-A-20	8	(85)	5	(77)	5	(84)	9	(79)	43	7
56	I-A-16	60	(20)	83	(18)	74	(19)	70	(20)	67	76
57	G-B-12	82	(57)	80	(60)	74	(97)	85	(74)	77	83
58	G-C-20	3	(69)	16	(64)	8	(76)	10	(86)	6	13
59	I-A-17	15	(20)	22	(18)	37	(19)	15	(20)	26	18
60	G-C-11	67	(69)	77	(64)	68	(76)	76	(86)	68	76
61	G-B-20	0	(57)	0	(60)	4	(97)	3	(74)	3	1
66	G-C-1a	75	(69)	53	(64)	63	(76)	52	(86)	69	53
	" b	54	"	59	"	62	"	45	"	58	51
	" a,b	43	"	34	"	47	"	33	"	46	33
67	I-C-21	59	(22)	65	(23)	27	(33)	63	(30)	40	64
68	G-C-16	74	(69)	88	(64)	71	(76)	83	(86)	72	85
69	G-C-12	62	(69)	63	(64)	61	(76)	74	(86)	61	69
70	I-C-11	32	(22)	35	(23)	27	(33)	47	(30)	29	42
71	G-A-9a	60	(85)	71	(77)	58	(84)	71	(79)	59	71
	" b	66	"	68	"	48	"	57	"	57	62
	" c	56	"	57	"	60	"	68	"	58	63
	" a,b	40	"	44	"	36	"	46	"	38	45
72	I-A-18	45	(20)	61	(18)	53	(19)	65	(20)	49	63
73	G-C-14	12	(69)	23	(64)	25	(76)	13	(86)	19	17
74	G-B-11	65	(57)	42	(60)	62	(97)	49	(74)	63	46
75	I-B-21	64	(25)	67	(18)	50	(28)	59	(37)	57	62
76	I-C-18	32	(22)	52	(23)	27	(33)	23	(30)	29	36
77	G-A-4a	66	(85)	52	(77)	57	(84)	47	(79)	62	49
	" b	33	"	30	"	39	"	34	"	36	32
	" c	69	"	73	"	55	"	63	"	62	68
	" a,b	20	"	13	"	23	"	11	"	21	12

		Males % Passing				Females % Passing				Total % Passing	
Objective	Item	Pre-Test	(N)	Post-Test	(N)	Pre-Test	(N)	Post-Test	(N)	Pre-Test	Post-Test
78	I-A-15	20	(20)	17	(18)	21	(19)	25	(20)	21	21
79	G-B-18	35	(57)	17	(60)	25	(97)	30	(74)	29	24
80	I-A-21	35	(20)	56	(18)	53	(19)	55	(20)	44	55
81	G-A-2a	67	(85)	60	(77)	60	(84)	66	(79)	63	63
	" b	60	"	71	"	58	"	75	"	59	73
	" a,b	47	"	48	"	44	"	57	"	46	53
82	I-A-8	45	(20)	94	(18)	79	(19)	90	(20)	62	92
83	G-B-6a	65	(57)	70	(60)	66	(97)	74	(74)	66	72
	" b	51	"	60	"	49	"	54	"	50	57
	" c	74	"	70	"	81	"	88	"	79	80
	" a,b	39	"	45	"	37	"	47	"	38	46
84	G-B-16	49	(57)	70	(60)	52	(97)	77	(74)	51	74
85	I-B-11	64	(25)	78	(18)	50	(28)	57	(37)	57	64
86	I-B-15	12	(25)	17	(18)	14	(28)	19	(37)	13	18
87	G-A-10a	48	(85)	45	(77)	37	(84)	47	(79)	43	46
	" b	58	"	62	"	51	"	44	"	54	53
	" c	71	"	70	"	65	"	70	"	68	70
	" a,b	32	"	31	"	23	"	24	"	27	28
88	I-A-23	55	(20)	78	(18)	53	(19)	75	(20)	54	100
89	G-B-1a	32	(57)	77	(60)	52	(97)	74	(74)	44	75
	" b	42	"	65	"	44	"	65	"	44	65
	" c	53	"	52	"	57	"	50	"	55	51
	" a,b	11	"	55	"	24	"	53	"	19	54
90	I-C-13	18	(22)	13	(23)	30	(33)	30	(30)	25	23
91	I-B-19	100	(25)	89	(18)	93	(28)	81	(37)	96	84
92	I-C-20	68	(22)	65	(23)	64	(33)	60	(30)	65	62
93	I-A-19	15	(20)	17	(18)	26	(19)	30	(20)	21	24
94	I-B-16	80	(25)	83	(18)	86	(28)	86	(37)	83	85
95	I-C-15	82	(22)	74	(23)	67	(33)	67	(30)	73	70
96	I-A-10	70	(20)	83	(18)	74	(19)	80	(20)	72	82
97	I-C-12	64	(22)	65	(23)	61	(33)	57	(30)	62	60
98	G-C-9	16	(69)	34	(64)	20	(76)	29	(86)	18	31
99	G-A-7a	40	(85)	40	(77)	51	(84)	38	(79)	46	39
	" b	54	"	81	"	58	"	57	"	56	69
	" c	62	"	77	"	65	"	72	"	64	74
	" a,b	27	"	32	"	31	"	33	"	29	33
100	G-B-3a	39	(57)	45	(60)	46	(97)	54	(74)	44	50
	" b	54	"	40	"	47	"	49	"	50	45
	" c	58	"	68	"	60	"	64	"	59	66
	" a,b	35	"	23	"	35	"	39	"	35	32
101	I-A-20	55	(20)	67	(18)	58	(19)	75	(20)	56	71
102	I-C-9	95	(22)	87	(23)	88	(33)	87	(30)	91	87

		Males % Passing				Females % Passing				Total % Passing	
Objective	Item	Pre-Test	(N)	Post-Test	(N)	Pre-Test	(N)	Post-Test	(N)	Pre-Test	Post-Test
103	I-C-17	64	(22)	83	(23)	70	(33)	63	(30)	67	72
104	I-C-1	95	(22)	87	(23)	82	(33)	90	(30)	87	89
105	G-A-3a	78	(85)	83	(77)	70	(84)	89	(79)	74	81
	" b	87	"	88	"	83	"	91	"	85	90
	" c	84	"	84	"	79	"	89	"	81	87
	" a,b	74	"	69	"	67	"	84	"	70	76
106	G-A-8a	67	(85)	57	(77)	64	(84)	68	(79)	66	63
	" b	48	"	58	"	50	"	67	"	49	63
	" c	47	"	64	"	46	"	67	"	47	65
	" a,b	32	"	35	"	35	"	49	"	33	42
107	G-B-8a	63	(57)	72	(60)	67	(97)	76	(74)	66	74
	" b	75	"	77	"	81	"	88	"	79	83
	" c	65	"	70	"	60	"	76	"	62	73
	" a,b	54	"	60	"	65	"	73	"	61	67
110	I-B-12	79	(25)	72	(18)	21	(28)	84	(37)	79	80
111	G-C-17	90	(69)	91	(64)	91	(76)	91	(86)	90	91
112	G-B-17	58	(57)	70	(60)	73	(97)	70	(74)	68	70
113	G-C-15	84	(69)	92	(64)	93	(76)	93	(86)	89	93
114	G-B-14	75	(57)	83	(60)	82	(97)	88	(74)	80	86
115	G-C-10	75	(69)	88	(64)	86	(76)	90	(86)	81	89
116	G-A-16a	84	(85)	81	(77)	79	(84)	90	(79)	81	85
	" b	76	"	74	"	70	"	82	"	73	78
	" a,b	68	"	70	"	63	"	76	"	66	73
117	I-C-14	86	(22)	74	(23)	73	(33)	80	(30)	78	77
118	I-B-18	60	(25)	44	(18)	36	(28)	49	(37)	47	47
119	G-B-19	56	(57)	63	(60)	70	(97)	78	(74)	65	72
120	I-B-23	40	(25)	44	(18)	36	(28)	30	(37)	38	35
121	G-C-13	51	(69)	72	(64)	62	(76)	76	(86)	57	74
122	G-C-19	36	(69)	47	(64)	36	(76)	45	(86)	36	46
123	G-C-18	72	(69)	61	(64)	67	(76)	76	(86)	70	69
124	G-C-6	55	(69)	73	(64)	62	(76)	80	(86)	59	77
125	I-B-14	64	(25)	67	(18)	64	(28)	65	(37)	64	65
126	G-B-15	56	(57)	80	(60)	73	(97)	89	(74)	67	85
127	G-C-8	35	(69)	55	(64)	33	(76)	56	(86)	34	55
128	G-A-19	40	(85)	51	(77)	46	(84)	54	(79)	43	53
129	I-C-19	55	(22)	39	(23)	36	(33)	50	(30)	44	45
130	I-A-6	65	(20)	56	(18)	47	(19)	60	(20)	56	58
131	G-A-17	51	(85)	49	(77)	49	(84)	51	(79)	50	50
132	I-C-16	82	(22)	70	(23)	64	(33)	70	(30)	71	70
133	G-A-15	33	(85)	29	(77)	32	(84)	38	(79)	33	33
134	G-B-13	30	(57)	33	(60)	31	(97)	39	(74)	31	37
135	G-B-9	39	(57)	57	(60)	54	(97)	57	(74)	48	57

Table C-4: Percent of Students of Three Language Groups (Teacher Rated Ability in English) Passing Items on Pre- and Post-Tests of Classroom Objectives

		English Only % Passing				Spanish and Adequate English % Passing				Spanish and Little/No English % Passing			
Objective	Item*	Pre-Test	(N)	Post-Test	(N)	Pre-Test	(N)	Post-Test	(N)	Pre-Test	(N)	Post-Test	(N)
1	I-B-1	100	(4)	100	(7)	65	(40)	86	(35)	67	(6)	71	(7)
2	I-B-2	50	"	71	(7)	78	"	74	"	83	"	71	"
3	I-B-3	75	(4)	71	(7)	73	(40)	74	(35)	67	(6)	71	(7)
4	I-C-23	89	(9)	100	(8)	81	(36)	89	(37)	86	(7)	80	(5)
5	I-B-4	25	(4)	57	(7)	48	(40)	49	(35)	17	(6)	29	(7)
6	I-B-5	75	"	86	"	85	"	66	"	67	"	57	"
7	I-B-6	0	(4)	43	(7)	30	(40)	51	(35)	50	(6)	43	(7)
8	I-A-3	100	(5)	82	(11)	88	(25)	91	(22)	71	(7)	100	(4)
9	I-B-7	67	(4)	86	(7)	54	(40)	63	(35)	67	(6)	86	(7)
10	I-C-10	56	(9)	50	(8)	33	(36)	43	(37)	29	(7)	60	(5)
11	I-A-2	80	(5)	55	(11)	40	(25)	95	(22)	57	"	100	(4)
12	I-A-4	100	"	100	"	64	"	86	"	43	"	75	(4)
13	G-C-2a	79	(14)	44	(18)	66	(116)	56	(108)	43	"	60	(20)
	" b	29	"	61	"	36	"	66	"	57	"	65	"
	" c	79	"	72	"	67	"	66	"	86	"	45	"
	" a,b	64	"	39	"	49	"	44	"	0	"	45	"
14	I-A-5	100	(5)	91	(11)	64	(25)	68	(22)	14	(7)	50	(4)
15	I-C-5	22	(9)	50	(8)	22	(36)	32	(37)	14	(7)	20	(5)
16	G-B-4a	91	(8)	79	(19)	74	(61)	69	(81)	50	(24)	78	(23)
	" b	73	"	84	"	63	"	72	"	44	"	70	"
	" a,b	73	"	68	"	54	"	60	"	28	"	70	"
17	I-B-8	100	(4)	100	(7)	100	(40)	94	(35)	100	(6)	86	(7)
18	I-C-6	67	(9)	75	(8)	28	(36)	38	(37)	29	(7)	40	(5)
19	G-B-2a	82	(8)	63	(19)	71	(61)	73	(81)	38	(24)	48	(23)
	" b	100	"	74	"	70	"	70	"	47	"	52	"
	" c	82	"	74	"	66	"	77	"	25	"	48	"
	" a,b	82	"	47	"	58	"	56	"	25	"	26	"

*The percentages for items designated as "a,b" are based on the number of students passing both items "a" and "b."

Objective	Item	English Only % Passing				Spanish and Adequate English % Passing				Spanish and Little/No English % Passing			
		Pre-Test	(N)	Post-Test	(N)	Pre-Test	(N)	Post-Test	(N)	Pre-Test	(N)	Post-Test	(N)
20	I-B-17	50	(4)	71	(7)	48	(40)	49	(35)	50	(6)	29	(7)
21	I-A-11	80	(5)	64	(11)	36	(25)	45	(22)	29	(7)	25	(4)
22	I-A-13	20	(5)	27	(11)	28	(25)	45	(22)	0	(7)	0	(4)
23	G-A-5a	74	(23)	86	(21)	60	(117)	61	(112)	29	(21)	50	(20)
	" b	87	"	71	"	44	"	53	"	29	"	45	"
	" a,b	65	"	57	"	32	"	38	"	10	"	25	"
24	G-A-18	83	(23)	86	(21)	82	(117)	81	(112)	62	(21)	55	(20)
25	I-B-20	75	(4)	86	(7)	48	(40)	74	(35)	50	(6)	29	(7)
26	I-A-7	100	(5)	100	(11)	88	(25)	95	(22)	100	(7)	75	(4)
27	I-C-3	100	(9)	100	(8)	94	(36)	100	(37)	86	(7)	100	(5)
28	I-A-1	100	(5)	100	(11)	100	(25)	95	(22)	100	"	100	(4)
29	I-C-4	100	(9)	100	(8)	97	(36)	92	(37)	71	"	60	(5)
30	G-B-10	82	(8)	84	(19)	87	(61)	89	(81)	47	(24)	83	(23)
31	I-C-7	100	(9)	100	(8)	89	(36)	97	(37)	71	(7)	60	(5)
32	G-A-1a	74	(23)	76	(21)	61	(117)	51	(112)	67	(21)	25	(20)
	" b	52	"	95	"	44	"	60	"	19	"	35	"
	" c	70	"	71	"	63	"	69	"	48	"	40	"
	" a,b	48	"	76	"	31	"	41	"	10	"	15	"
33	G-A-13	65	(23)	76	"	65	"	69	"	48	"	60	"
34	I-A-14	100	(5)	100	(11)	92	(25)	100	(22)	71	(7)	100	(4)
35	G-A-14	65	(23)	95	(21)	70	(117)	74	(112)	62	(21)	43	(20)
36	I-B-13	100	(4)	100	(7)	98	(40)	94	(35)	83	(6)	57	(7)
37	G-C-4a	93	(14)	89	(18)	76	(116)	77	(108)	86	(7)	70	(20)
	" b	0	"	100	"	13	"	88	"	14	"	80	"
	" a,b	93	"	89	"	70	"	71	"	71	"	70	"
38	G-C-5a	100	(14)	94	"	91	"	94	"	100	"	90	"
	" b	100	"	100	"	93	"	97	"	43	"	80	"
	" c	93	"	100	"	92	"	96	"	57	"	85	"
	" a,b	100	"	94	"	87	"	94	"	43	"	80	"
39	G-A-11a	96	(23)	95	(21)	74	(117)	84	(112)	71	(21)	60	"
	b	87	"	86	"	73	"	78	"	71	"	65	"
	c	74	"	86	"	77	"	79	"	71	"	70	"
	a,b	87	"	86	"	56	"	64	"	62	"	55	"
40	G-C-3a	100	(14)	89	(18)	88	(116)	94	(108)	100	(7)	95	"
	b	93	"	89	"	93	"	89	"	86	"	80	"
	a,b	93	"	83	"	84	"	87	"	86	"	80	"
41	G-B-5a	73	(8)	79	(19)	61	(61)	77	(81)	41	(24)	48	(23)
	b	82	"	95	"	82	"	89	"	41	"	65	"
	c	91	"	79	"	91	"	80	"	38	"	65	"
	a,b	73	"	79	"	58	"	65	"	25	"	35	"
42	I-A-9	100	(5)	82	(11)	80	(25)	95	(22)	43	(7)	75	(4)

Objec-tive	Item	English Only % Passing Pre-Test	(N)	Post-Test	(N)	Spanish and Adequate English % Passing Pre-Test	(N)	Post-Test	(N)	Spanish and Little/No English % Passing Pre-Test	(N)	Post-Test	(N)
43	I-A-12	100	(5)	100	(11)	96	(25)	100	(22)	86	(7)	100	(4)
44	I-B-22	50	(4)	86	(7)	83	(40)	83	(35)	67	(6)	57	(7)
45	I-C-2	100	(9)	88	(8)	97	(36)	95	(37)	86	(7)	100	(5)
46	I-B-10	50	(4)	86	(7)	55	(40)	63	(35)	33	(6)	57	(7)
47	I-C-8	100	(9)	100	(8)	94	(36)	95	(37)	86	(7)	80	(5)
48	G-A-6a	91	(23)	86	(21)	68	(117)	74	(112)	62	(21)	50	(20)
	" b	91	"	95	"	75	"	79	"	52	"	55	"
	" c	87	"	90	"	75	"	74	"	62	"	50	"
	" a,b	87	"	86	"	57	"	69	"	43	"	40	"
49	I-A-22	80	(5)	100	(11)	92	(25)	100	(22)	86	(7)	100	(4)
50	G-B-7a	73	(8)	42	(19)	40	(61)	42	(81)	31	(24)	35	(23)
	" b	64	"	47	"	54	"	58	"	56	"	43	"
	" c	82	"	64	"	52	"	62	"	41	"	39	"
	" a,b	45	"	37	"	21	"	30	"	22	"	22	"
51	I-B-9	100	(4)	100	(7)	100	(40)	97	(35)	100	(6)	86	(7)
52	G-A-12	30	(23)	24	(21)	43	(117)	46	(112)	19	(21)	20	(20)
53	I-C-22	89	(9)	88	(8)	81	(36)	65	(37)	43	(7)	40	(5)
54	G-C-7	7	(14)	78	(18)	28	(116)	74	(108)	86	"	65	(20)
55	G-A-20	13	(23)	14	(21)	6	(117)	7	(112)	0	(21)	0	"
56	I-A-16	100	(5)	91	(11)	68	(25)	68	(22)	43	(7)	75	(4)
57	G-B-12	73	(8)	84	(19)	84	(61)	83	(81)	66	(24)	83	(23)
58	G-C-20	21	(14)	17	(18)	4	(116)	13	(108)	0	(7)	5	(20)
59	I-A-17	40	(5)	27	(11)	24	(25)	18	(22)	14	"	0	(4)
60	G-C-11	86	(14)	94	(18)	68	(116)	76	(108)	71	"	60	(20)
61	G-B-20	18	(8)	5	(19)	1	(61)	0	(81)	0	(24)	0	(23)
66	G-C-1a	79	(14)	61	(18)	67	(116)	53	(108)	71	(7)	50	(20)
	" b	57	"	56	"	59	"	49	"	57	"	60	"
	" a,b	57	"	39	"	44	"	31	"	43	"	40	"
67	I-C-21	56	(9)	88	(8)	36	(36)	57	(37)	43	"	60	(5)
68	G-C-16	93	(14)	94	(18)	74	(116)	87	(108)	43	"	65	(20)
69	G-C-12	64	"	78	"	63	"	69	"	43	"	65	"
70	I-C-11	44	(9)	38	(8)	28	(36)	49	(37)	14	"	20	(5)
71	G-A-9a	61	(23)	81	(21)	58	(117)	71	(112)	52	(21)	60	(20)
	" b	65	"	62	"	56	"	65	"	52	"	45	"
	" c	65	"	76	"	58	"	64	"	52	"	45	"
	" a,b	35	"	43	"	38	"	48	"	33	"	30	"
72	I-A-18	80	(5)	55	(11)	44	(25)	73	(22)	43	(7)	50	(4)
73	G-C-14	21	(14)	22	(18)	19	(116)	17	(108)	14	"	20	(20)
74	G-B-11	55	(8)	53	(19)	68	(61)	41	(81)	47	(24)	52	(23)
75	I-B-21	50	(4)	71	(7)	58	(40)	60	(35)	50	(6)	71	(7)
76	I-C-18	44	(9)	50	(8)	25	(36)	38	(37)	29	(7)	0	(5)

		English Only % Passing				Spanish and Adequate English % Passing				Spanish and Little/No English % Passing			
Objective	Item	Pre-Test	(N)	Post-Test	(N)	Pre-Test	(N)	Post-Test	(N)	Pre-Test	(N)	Post-Test	(N)
77	G-A-4a	39	(23)	33	(21)	65	(117)	54	(112)	57	(21)	40	(20)
	" b	35	"	43	"	37	"	31	"	29	"	25	"
	" c	65	"	81	"	62	"	66	"	57	"	60	"
	" a,b	17	"	14	"	21	"	13	"	14	"	10	"
78	I-A-15	20	(5)	18	(11)	28	(25)	23	(22)	0	(7)	0	(4)
79	G-B-18	0	(8)	16	(19)	34	(61)	23	(81)	28	(24)	30	(23)
80	I-A-21	40	(5)	55	(11)	52	(25)	59	(22)	14	(7)	50	(4)
81	G-A-2a	65	(23)	67	(21)	64	(117)	65	(112)	52	(21)	50	(20)
	" b	65	"	76	"	60	"	79	"	43	"	45	"
	" a,b	52	"	48	"	47	"	60	"	24	"	20	"
82	I-A-8	100	(5)	91	(11)	68	(25)	91	(22)	14	(7)	100	(4)
83	G-B-6a	73	(8)	79	(19)	69	(61)	74	(81)	50	(24)	52	(23)
	" b	73	"	79	"	52	"	56	"	34	"	39	"
	" c	91	"	89	"	82	"	81	"	66	"	61	"
	" a,b	55	"	63	"	40	"	47	"	25	"	22	"
84	G-B-16	64	"	79	"	57	"	78	"	34	"	65	"
85	I-B-11	75	(4)	57	(7)	55	(40)	74	(35)	33	(6)	43	(7)
86	I-B-15	0	"	14	"	13	"	20	"	17	"	0	"
87	G-A-10a	35	(23)	38	(21)	45	(117)	52	(112)	38	(21)	30	(20)
	" b	56	"	62	"	54	"	50	"	48	"	65	"
	" c	78	"	71	"	68	"	69	"	52	"	70	"
	" a,b	26	"	29	"	28	"	29	"	19	"	20	"
88	I-A-23	60	(5)	73	(11)	64	(25)	86	(22)	14	(7)	50	(4)
89	G-B-1a	55	(8)	74	(19)	43	(61)	65	(81)	34	(24)	52	(23)
	" b	73	"	74	"	39	"	65	"	44	"	52	"
	" c	73	"	63	"	56	"	49	"	44	"	43	"
	" a,b	45	"	74	"	16	"	52	"	13	"	39	"
90	I-C-13	44	(9)	50	(8)	25	(36)	19	(37)	14	(7)	0	(5)
91	I-B-19	100	(4)	100	(7)	95	(40)	86	(35)	100	(6)	71	(7)
92	I-C-20	78	(9)	88	(8)	58	(36)	62	(37)	71	(7)	40	(5)
93	I-A-19	20	(5)	27	(11)	20	(25)	27	(22)	29	"	0	(4)
94	I-B-16	75	(4)	86	(7)	85	(40)	86	(35)	67	(6)	71	(7)
95	I-C-15	100	(9)	100	(8)	72	(36)	70	(37)	43	(7)	40	(5)
96	I-A-10	100	(5)	73	(11)	76	(25)	86	(22)	29	"	75	(4)
97	I-C-12	78	(9)	88	(8)	67	(36)	59	(37)	29	(7)	40	(5)
98	G-C-9	29	(14)	33	(18)	18	(116)	33	(108)	14	"	15	(20)
99	G-A-7a	43	(23)	43	(21)	47	(117)	40	(112)	43	(21)	20	"
	" b	57	"	71	"	59	"	69	"	38	"	60	"
	" c	70	"	86	"	66	"	74	"	43	"	70	"
	" a,b	22	"	29	"	32	"	37	"	19	"	5	"

Objec-tive	Item	English Only % Passing Pre-Test	(N)	Post-Test	(N)	Spanish and Adequate English % Passing Pre-Test	(N)	Post-Test	(N)	Spanish and Little/No English % Passing Pre-Test	(N)	Post-Test	(N)
100	G-B-3a	55	(8)	53	(19)	42	(61)	51	(81)	38	(24)	35	(23)
	" b	64	"	47	"	56	"	42	"	34	"	43	"
	" c	73	"	74	"	69	"	73	"	28	"	35	"
	" a,b	45	"	42	"	38	"	30	"	25	"	22	"
101	I-A-20	80	(5)	64	(11)	52	(25)	82	(22)	43	(7)	50	(4)
102	I-C-9	100	(9)	88	(8)	92	(36)	86	(37)	71	"	80	(5)
103	I-C-17	78	"	100	"	69	"	73	"	43	"	20	"
104	I-C-1	100	(9)	100	(8)	89	(36)	86	(37)	71	(7)	80	(5)
105	G-A-3a	78	(23)	90	(21)	77	(117)	82	(112)	52	(21)	65	(20)
	" b	96	"	100	"	88	"	93	"	57	"	65	"
	" c	91	"	95	"	81	"	88	"	67	"	75	"
	" a,b	78	"	90	"	74	"	79	"	43	"	50	"
106	G-A-8a	91	"	81	"	63	"	63	"	48	"	35	"
	" b	65	"	81	"	46	"	64	"	43	"	35	"
	" c	61	"	76	"	46	"	66	"	33	"	50	"
	" a,b	61	"	71	"	27	"	40	"	29	"	20	"
107	G-B-8a	55	(8)	68	(19)	73	(61)	80	(81)	50	(24)	57	(23)
	" b	91	"	89	"	86	"	84	"	66	"	70	"
	" c	89	"	84	"	69	"	75	"	41	"	61	"
	" a,b	55	"	68	"	68	"	70	"	47	"	52	"
110	I-B-12	100	(4)	100	(7)	85	(40)	89	(35)	17	(6)	29	(7)
111	G-C-17	0	(14)	100	(18)	9	(116)	91	(108)	14	(7)	85	(20)
112	G-B-17	73	(8)	84	(19)	74	(61)	74	(81)	44	(24)	39	(23)
113	G-C-15	100	(14)	100	(18)	91	(116)	93	(108)	71	(7)	90	(20)
114	G-B-14	82	(8)	95	(19)	87	(61)	89	(81)	56	(24)	65	(23)
115	G-C-10	100	(14)	100	(18)	82	(116)	91	(108)	57	(7)	70	(20)
116	G-A-16a	83	(23)	86	(21)	81	(117)	88	(112)	71	(21)	70	"
	" b	91	"	90	"	70	"	83	"	67	"	45	"
	" a,b	78	"	81	"	62	"	78	"	57	"	45	"
117	I-C-14	78	(9)	100	(8)	81	(36)	78	(37)	57	(7)	60	(5)
118	I-B-18	50	(4)	57	(7)	45	(40)	54	(35)	33	(6)	0	(7)
119	G-B-19	82	(8)	95	(19)	69	(61)	74	(81)	50	(24)	43	(23)
120	I-B-23	50	(4)	57	(7)	40	(40)	34	(35)	17	(6)	0	(7)
121	G-C-13	86	(14)	78	(18)	58	(116)	76	(108)	29	(7)	60	(20)
122	G-C-19	57	"	61	"	36	"	47	"	14	"	30	"
123	G-C-18	93	"	94	"	71	"	71	"	43	"	35	"
124	G-C-6	86	"	89	"	59	"	77	"	29	"	75	"
125	I-B-14	50	(4)	100	(7)	65	(40)	71	(35)	50	(6)	14	(7)
126	G-B-15	91	(8)	95	(19)	69	(61)	83	(81)	56	(24)	83	(23)
127	G-C-8	50	(14)	50	(18)	34	(116)	53	(108)	29	(7)	80	(20)
128	G-A-19	43	(23)	62	(21)	44	(117)	55	(112)	33	(21)	30	(20)
129	I-C-19	78	(9)	63	(8)	30	(36)	49	(37)	29	(7)	0	(5)

		English Only % Passing				Spanish and Adequate English % Passing				Spanish and Little/No English % Passing			
Objective	Item	Pre-Test	(N)	Post-Test	(N)	Pre Test	(N)	Post-Test	(N)	Pre-Test	(N)	Post-Test	(N)
130	I-A-6	80	(5)	64	(11)	56	(25)	55	(22)	29	(7)	75	(4)
131	G-A-17	48	(23)	57	(21)	50	(117)	51	(112)	43	(21)	40	(20)
132	I-C-16	78	(9)	100	(8)	73	(36)	73	(37)	71	(7)	20	(5)
133	G-A-15	30	(23)	38	(21)	36	(117)	37	(112)	19	(21)	15	(20)
134	G-B-13	45	(8)	42	(19)	33	(61)	32	(81)	16	(24)	39	(23)
135	G-B-9	55	"	79	"	57	"	58	"	31	"	30	"

REFERENCES

Bell, Norman T. and Allan J. Abedor. Programed Proposal Writing Guide. Mt. Pleasant, Michigan: Michigan Migrant Education Center, Central Michigan University, 1972(a).

____. Programed Teacher's Guide. Mt. Pleasant, Michigan: Michigan Migrant Education Center, Central Michigan University, 1972(b).

Eiszler, Charles F. "Self-Concept, Attitude Toward School, and Reading Achievement: A Study of Michigan Migrant Education Summer School Programs." Mimeo, Michigan Migrant Education Center, Central Michigan University, 1972.

Glass, Gene V. and Julian Stanley. Statistical Methods in Education and Psychology. New York: Prentice-Hall, 1970.

Guilford, J. P. Psychometric Methods. New York: McGraw-Hill, 1954.

Hornburger, Jane. So You Have an Aide: A Guide for Teachers in the Use of Classroom Aides. Wilmington, Delaware: Wilmington Public Schools, 1969.

Instructional Objectives Exchange. Measures of Attitude Toward School, K-12. Los Angeles, California, 1970.

____. Measures of Self-Concept, K-12. Los Angeles, California, 1970.

Michigan Department of Education. Administrative Handbook: Michigan Migrant Education Program. Mimeo, 1971.

Spivack, George and Marshall Swift. Devereux Elementary School Behavior Rating Scale Manual. Devon, Pennsylvania: Devereux Foundation, 1967.

U.S. Superintendent of Documents (Pamphlets). Program for Migrant Children Under ESEA Title I. Washington, D.C.: U.S. Government Printing Office, 1971.

Winer, B. J. Statistical Principles in Experimental Design. New York: McGraw-Hill, 1971.